Tetrahedron Letters

The International Journal for the Rapid Publication of Preliminary Communications in Organic Chemistry

Founded jointly by Sir Robert Robinson and R. B. Woodward
Chairman of the executive board of editors for Tetrahedron publications
Sir Derek Barton Texas A&M University U.S.A.

SUBJECT AND AUTHOR INDEX
NUMBERS 1-52 1991

Pergamon Press:
Oxford New York Seoul Tokyo

TETRAHEDRON LETTERS

The International Journal for the Rapid Publication of Preliminary Communications in Organic Chemistry

EXECUTIVE BOARD OF EDITORS FOR TETRAHEDRON PUBLICATIONS

Chairman: **Professor Sir Derek Barton, FRS,** Department of Chemistry, Texas A&M University, College Station, TX 77843-3255, USA (FAX: 1 409 845 4719)

Professor J. E. Baldwin, FRS, Dyson Perrins Laboratory, Oxford, England (FAX: 44 865 275632)
Professor D. L. Boger, Department of Chemistry, The Scripps Research Institute, La Jolla, CA 92037, USA (FAX: 1 619 554 6401)
Dr S. G. Davies, Dyson Perrins Laboratory, Oxford, England (FAX: 44 865 275633)
Professor L. Ghosez, Laboratoire de Chimie Organique de Synthèse, Université Catholique de Louvain, Place L. Pasteur 1, B-1348 Louvain-la-Neuve, Belgium (FAX: 32 10 474 168)
Professor S. Ito, Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Yamashiro-cho, Tokushima 770, Japan (FAX: 81 886 55 8774)
Professor A. R. Katritzky, FRS, Department of Chemistry, University of Florida, Gainesville, FL 32611, USA (FAX: 1 904 392 9199)
Professor N. K. Kochetkov, N. D. Zelinsky Institute of Organic Chemistry, Academy of Sciences USSR, Leninsky Prospekt 47, Moscow B-334, USSR (FAX: 7 095 135 5328)
Professor A. McKillop, University of East Anglia, School of Chemical Sciences, University Plain, Norwich NR4 7TJ, England (FAX: 44 603 507773)
Professor A. Nickon, Department of Chemistry, The Johns Hopkins University, Baltimore, MD 21218, USA (FAX: 1 410 516 8420)
Professor W. D. Ollis, FRS, University of Sheffield, Sheffield S3 7HF, England (FAX: 44 742 668318)
Professor G. Ourisson, Centre National de la Recherche Scientifique, Centre de Neurochimie, 5 rue Blaise Pascal, 67084 Strasbourg, Cedex, France (FAX: 33 88 607620)
Professor T. Shioiri, Faculty of Pharmaceutical Sciences, Nagoya City University, Tanabe-dori, Mizuho-ku, Nagoya 467, Japan (FAX: 81 52 834 4172)
Professor W. Steglich, Institut für Organische Chemie und Biochemie der Universität Bonn, D-5300 Bonn 1, Gerhard-Domagk-Strasse 1, Germany (FAX: 49 228 258216)
Professor H. H. Wasserman, Department of Chemistry, Yale University, PO Box 6666, New Haven, CT 06511, USA (FAX: 1 203 432 9990)
Professor W. T. Wipke, Thimann Laboratories, University of California, Santa Cruz, CA 95064, USA (FAX: 1 408 459 4716)

Editor Tetrahedron Organic Chemistry Series: **Professor J. E. Baldwin FRS,** Dyson Perrins Laboratory, Oxford, England

BOARD OF CONSULTING EDITORS

F. Arcamone, Florence
D. Arigoni, Zurich
P. D. Bartlett, Fort Worth, TX
A. R. Battersby, Cambridge
A. L. J. Beckwith, Canberra
R. G. Bergman, Berkeley, CA
A. J. Birch, Canberra
R. Breslow, New York, NY
H. C. Brown, Lafayette, IN
E. J. Corey, Cambridge, MA
J. W. Cornforth, Brighton
D. J. Cram, Los Angeles, CA
P. Deslongchamps, Quebec
M. J. S. Dewar, Gainesville, FL
C. Djerassi, Stanford, CA
W. von E. Doering, Cambridge, MA
J. E. Dubois, Paris
J. Elguero, Madrid
A. Eschenmoser, Zurich
D. A. Evans, Cambridge, MA
G. Fodor, Morgantown, WV
A. González González, Tenerife
Y. Hirata, Nagoya
R. Huisgen, Munich
W. S. Johnson, Stanford, CA
M. Julia, Paris
A. Kjaer, Lyngby
V. A. Koptyug, Novosibirsk
M. Lahav, Rehovat
J.-M. Lehn, Strasbourg
R. U. Lemieux, Alberta
X. T. Liang, Beijing
P. de Mayo, Ontario
A. I. Meyers, Fort Collins, CO
J. Michalski, Lodz
M. L. Mihailovic, Belgrade
K. Mori, Tokyo
T. Mukaiyama, Tokyo
K. Nakanishi, New York, NY
T. Norin, Stockholm
R. Noyori, Nagoya
S. Nozoe, Sendai
W. Oppolzer, Geneva
H. Paulsen, Hamburg
P. Potier, Gif-sur-Yvette
S. K. Pradhan, Bombay
V. Prelog, Zurich
G. Quinkert, Frankfurt am Main
R. A. Raphael, Cambridge
C. W. Rees, London
J. D. Roberts, Pasadena, CA
A. I. Scott, College Station, TX
K. B. Sharpless, La Jolla, CA
G. Snatzke, Bochum
H. A. Staab, Heidelberg
G. Stork, New York, NY
Sukh Dev, New Delhi
W. Tochtermann, Kiel
A. Todd, Cambridge
H. G. Viehe, Louvain-la-Neuve
E. Vogel, Cologne
P. von Ragué Schleyer, Erlangen
Y. Wang, Shanghai
K. B. Wiberg, New Haven, CT
E. Winterfeldt, Hannover
N. S. Zefirov, Moscow

Publishing, Subscription and Advertising Offices

Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW (phone Oxford 794141: FAX: 60285) and Pergamon Press Inc., 395 Saw Mill River Road, Elmsford, NY 10523, USA (phone 914 592 7700: telex 137328).

Fifty-two issues per year

Annual Subscription Rates (1992)

Annual Institutional Subscription Rate (1992): £2555 (US$4090). Two-year Institutional Rate (1992/93): £4854.50 (US$7771). Sterling prices are definitive. US dollar prices are quoted for convenience only, and are subject to exchange rate fluctuation. Prices include postage and insurance and are subject to change without notice.
Subscription rates for Japan are available on request.

Microform Subscriptions and Back Issues

Back issues of all previously published volumes are available direct from Pergamon Press offices.

⊛ ™ The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences — Permanence of Paper for Printed Library Materials, ANSI Z39.48–1984.

Copyright © 1991 Pergamon Press plc.

It is a condition of publication that manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the publisher if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organizations which do not permit such assignment. The copyright covers the exclusive rights to reproduce and distribute the article including reprints, photographic reproductions, microform, or any other reproduction of similar nature, and translations. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording, or otherwise, without permission in writing from the copyright holder.

Photocopying information for users in the USA. The Item-fee Code for this publication indicates that authorization to photocopy items for internal or personal use is granted by the copyright holder for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service provided the stated fee for copying beyond that permitted by Section 107 or 108 of the United States Copyright Law is paid. The appropriate remittance of $3.00 per copy per article is paid directly to the Copyright Clearance Center Inc., 27 Congress Street, Salem, MA 01970.

Permission for other use. The copyright owner's consent does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific written permission must be obtained from the publisher for such copying.

The Item-fee Code for this publication is: 0040-4039/91 $3.00 + .00

Tetrahedron Letters

Subject Index 1991

Corrigenda

André B., Boyer B., Lamaty G., Roque, J.–P.: **32**, 1881 (1991): correction to Table 1: time dimension in rate constant units is to be min^{-1} rather than sec^{-1}, 4056

Bajwa J.S. and Anderson R.C.: **31**, 6973 (1990): paragraph omitted from end p. 6975 is given, 1758

Barili P.L., Berti G., Catelani G. and D'Andrea F.: **32**, 959 (1991): two lines omitted with details of compds **8** tetraacetate, **9**, and **17** diacetate, 2692

Goulet M.T. and Boger, J.: **31**, 4845 (1990): rapamycin and allied structures (**1**, **3**, **5**, and in Scheme following **5**) corrected, 6454

Huang Y., Mullah N., Sopchik A.E., Arif A.M., Bentrude W.G.: **32**, 899 (1991): substitute table of NMR parameters with correct compound numbers, 3900

Hudlicky M. and Merola J.: **31**, 7403 (1990): configurations of formulae of starting materials and intermediates corrected, 3134

Iwamoto K., Fujimoto K., Matsuda T. and Shinkai S.: **31**, 7169 (1990): revised Table 1, to correct Cs_2CO_3 entry, 830

Luheshi A.–B.N., Salem S.M., Smalley R.K., Kennewell P.D., Westwood R.: **31**, 6561 (1990): m.p. and yield of iminophosphorane **10** corrected; also statement in **32**, 2521 (1991), 4056

Orfanopoulos M., Elemes Y. and Stratakis M.: **31**, 5775 (1990): correction to ene adduct structure, 2

Prapansiri V. and Thornton, E.R.: **32**, 3147 (1991): reference added, misprint corrected, 6044

Santaniello E., Ferraboschi P. and Grisenti P.:**31**, 5657 (1990): on p. 5659, information on PFL–catalysed hydrolysis of racemic acetate **4b** added, sentence and reaction scheme corrected, 430

Vallgårda J. and Hacksell U.: **32**, 5625 (1991): structure of Oppolzer's camphorsultam corrected, 7136

Abzymes
see Antibodies

Acetals

(+)–*exo*–brevicomin, synth using transketolase, 4835

(–)–*endo*–1,3–dimethyl–2,9–dioxabicyclo[3.3.1]nonane, beetle pheromone synth, 2223

1,3–dichloroacetone –, cyclization to cyclopropenone acetals, 1339

1,3–diol acetonide, cleavage to enol ether by trimethylsilyl triflate, stereochem and mech, ^{13}C labelling, 7223

2,2′–spirobi(tetrahydropyran) derivs in synth open–chain milbemycin analogs, 1719

2,3–dihydro–2,3–dihydroxy–5–vinylfuran cyclohexanone –, cycloaddn to benzoquinones, 1519

2–bromocycloalk–2–enone ethylene –, organocuprates from, 605, 609

2–deoxy–1–*O*–t–butyldimethylsilyl sugars as glycosyl donors, 2079

3–(pent–4–enyl)–*ortho*–benzoquinone mono–dimethylacetal, intramol [4+2]–cycloaddn, 6583

7–oxabicyclo[2.2.1]heptan–2–one, 5–*exo*,6–*exo*–isopropylidenedioxy–, reaction with diazomethane, 1637

α–alkoxyalkylation of silyl enolates by, 2043

α–phenylthio–acylals, from Pummerer rearr of vinylic sulfoxides, 6973

acylketene –, chiral, diastereoselectivity of addns to, 461, 465

ambracetal, *epi*–8–ambracetal, synth using C=O protection, 765

bicyclic, synth tirandamycin A, 1749

bromoacetaldehyde – to ketene – by solid–liquid PTC base elimination, 1539

catalysis of hydrolysis by polymerised micellar surfactants, 1881, corrigendum, 4056

chiral – of *N*–anisyl α–keto–imines, diastereosel addn of ester enolates, synth β–lactams, 7563

chiral spiro— from 1,3,5–pentanetriols and (–)–menthone, 1219

cleavage by chloroborane–dimethylsulfide, 3719

conversion into *N*–methyl amides or lactams by *N*–methyl *p*–nitrobenzenesulfonyloxyamine, 2429

cyclic ketals, reduction to β/γ–hydroxyalkyl ethers by $BH_3.SMe_2$ and TMS–triflate, 1095

cyclonona–1,2–dien–4–one ethylene –, acid–catalysed cycloaddn to 1,3–dienes, 6473

D–*myo*–inositol D–camphor 2,3–acetal, synth trisphosphate and bisphosphate, 6167

diethyl— of prop–2–ynal, but–3–ynal, 2–methylbut–3–ynal, addn of tributyltin–copper lithium reagents, 6333, 6337

dihydroxylation of unsat spiroacetals, stereosel, 4049

dimethyl tartrate –, with dialkylboron bromides and cuprate, diastereosel alcohol formation, 5453

dioxaspiro[2.4]nonanes, exocyclic glycal oxides, 4035

formation using sulfonylated charcoal as catalyst, 413

furfural –, 4–metallo–derivs, 903

fused –, 3a,6a–dihydrofurano[2,3–*b*]furan systems by $Mn(OAc)_3$–promoted addns to dihydrofurans, 7107

glyoxal mono–acetal, [4+2]–cycloaddn to 2–methylpenta–1,3–diene, 1723

hydrolysis –, in sterically switched ionophore, 35

ionone type C_{13} acetals from quince (*Cydonia oblonga*) brandy, 753

ketene silyl –, activation in Mukaiyama reaction by 10–methylacridinium perchlorate, 2405

mesoldl diphenylsilyl –, from enantiomeric alcohols, 3651

mono–camphor – of *myo*–inositol, synth D–*myo*–inositol 1–phosphate, 4031

monothio–, from aldehydes using Si reagents, 467

N–acyl–*N*,*O*–acetals, stereosel reactions with 2–(trimethylsilyloxy)furan, 3795

naphtho[3,2–*b*]pyran–2–one, bridged, reduced diacetal, part structure of paspalicine, 1381

oxidation of alkylidenemalonates to β,β–dimethoxyalkylmalonic esters, 799

pivalaldehyde – and lactic acid, 1,3–dioxolan–4–one from, effect of acid catalyst, 1441

seleno—, unsaturated, acid–catalysed cyclization, 105

silyl ketene –, conjugate addn to enones catalysed by $LiClO_4$, 4665

spiro—, in calyculin structure, synthetic operation of, 1609

spiro—, phyllanthocin, asymmetric synth, 1613
spiro—, breynin B, revised structure, nmr, 6847
spiro-5/7—, formation, structure by x-ray, 2253
stereosel synth spiroketal subunit of calyculin, 4855
stereospecific fragmentation of bridged β-hydroxyalkyl—, lactone synth, 5585
synth, chiral epoxidation, of (*E*)-5-hydroxypent-3-enal dimethyl acetal, 5717
$TiCl_4$-mediated coupling to β-keto-esters, -amides, 3635
$TiCl_4$-mediated reaction with buta-2,3-dienyltrimethylsilane, 4509
see also Aminals, Thioacetals

Acetogenins
(+)-muricatacin and *epi*—, synth (4*S*,5*R*)- from L-glutamic acid, 7539
itrabin, jetein, tetrahydrofuran -γ-lactones from *Annona cherimolia* seeds; laherradurin, otivarin, 6133

Acidity
kinetic - of 1-protons of 1,5-anhydro-4,6-*O*-benzylidene-2,3-dideoxy-3-nit ro-D-hex-2-enitol, 5809
mono-, di-, tri-azulenylmethyl cations, pK_{R+} values, 773

Acids
see Carboxylic acids, Sulfonic acids, etc.

Acridines
10-methylacridinium perchlorate as catalyst in Mukaiyama reaction, 2405
connected to octathymidylic acid with alternating P=S and P=O groups, 2497
glyfoline synth, 1,6-dihydroxy-2,3,4,5-tetramethoxy-10-methylacridone, 1541
photoreduction 10-methylacridinium ion by Ph_3P in $MeOH/H_2O$, 1047
thiazolo-fused acridones, synth, 39
thiazolo[5,4-*a*]acridines, 11-chloro-, 11-amino-, -11(6*H*)-ones, synth, nmr, 6709

Acylals
see Acetals

Acylation
2-acyl-3-hydroxymethylquinolines by intramol acyl transfer, 2171
cobalt(II) chloride catalysed - of anisole, radical pathway, 5179
competitive benzoylation of anisole and mesitylene on montmorillonite, 1561
enzymic, of 2-amino-β-lactam deriv, 1621
homolytic, of ferrocene, mechanism, 4993
intramol - of α-sulfonyl anion by anhydride residue, 4457
of glycosylamines by 3-acyl-5-methyl-1,3,4-thiadiazole-2-thione, 1557

Adamantanes
2,2-dibromo-, Br-Li exchange, and reaction of adamantanone with 7,7-dilithionorbornane, 2951
2,4-dimethylmethano-2,4-didehydro-, synth, reaction with electrophiles, 1655
adamantylidene-, singlet oxygenation, 863
alkylidene-, electron-transfer reactions induced by aminium salts, 117
di-1-adamantylchloromethane, dechlorination by BuLi in hexane, 2203

Addition reactions
2,3-dimethylbut-2-ene adducts with *N*-phenyl-1,2,4-triazoline-3,5-dione, product dichotomy, 2667
alkyllithium reagents to 2-(1-naphthyl)-2-oxazolines, 2095
by nucleophilic aromatic addn, of 2-phenyl-1-tosylaziridine anion, 1299
dinitrogen tetroxide to 1,2-dimethylcyclohexene, 1711
hydrochlorination of 1,3-butadiene, surface-catalysed, 3461
hydrochlorination of olefins with/without solid-phase catalyst; Markownikov/anti-M. addn to 1-methylcyclohexene, 3705
Michael addn of amines to nitrocycloalkenes, 1363
photochemical, of MeOH to phenylcyclopropanes, 173

Aggregation
sec-alkyllithiums, influence of - on addn of ethylene, 3111

Alcohols
1,2-dihydro-1-arylbenzocyclobuten-1-ols, synth *via* aryl α-lithioarylmethyl ketones, reduction by Et_3SiH/TFA, 2171
2,2-difluoro-homoallyl-, α-chloro-α,α-difluoroalkene addn to ketones, 1069
3,3-difluoroallyl -, reaction with DAST forming (*Z*)-trifluoromethyl alkenes, 5963
3-bromohomoallylic -, synth, 6749
α-halofluoroalkyl-, α-halofluoroalkenyl-, synth by electroreductive couplings, 6567
aliphatic -, using lipase and vinyl laurate, 7021
allenic, propargylic -, by reaction of aldehydes with pentaorganostiboranes, 6579
allyl -, from trialkenyl boranes by B-Zn group transfer, 2449
allyl -, quinoline synth by Pd-catalysed coupling to *o*-iodoaniline, 569
allylic - by reductive SmI_2-promoted carbonyl-alkyne coupling, 4921
allylic tert—, α-iodo-epoxides from, using $PhI(OAc)_2/I_2/h\nu$, 7493
allylic, Ru-catalysed isomn to satd aldehydes, ketones, 3039
β-alkylhomoallyl-, γδ-epoxy-β-alkyl-, chiral synth via butenolides, 371
β-iodoallylic -, Grignard addn to β-iodo-enals, 5329
β-nitro—, improved synth, 3225
benzylic -, reaction with allenylsilanes giving dihydronaphthalenes and spiro-trienones, 2327
catalytic arylation of allyl alcohols to styryl alcohols and to β-arylethyl aldehydes and ketones, 2121
chain mech photo-addn to fluoroolefins, 251
chiral allylic - by Li-*N*-methylephedrine promoted addn of 1-alkenylzinc bromides to aldehydes, 5777
chiral homoallylic, by Ti-catalysed aldehyde-ene cyclizations, 6571
chiral, enantiosel protonation of ketone enolates, 4729
cobalt-catalysed conversion allylic alcohols to rearranged *N*-allyl acetamides, 6965
config inversion by Mitsunobu reaction, *p*-nitrobenzoate as incoming nucleophile, 3017
conversion of prim and sec C-OH into C-SPh using Ph_2S_2/Bu_3P at 10 kbar, 4155
coumaryl, coniferyl, sinapyl, synth from allylphenols, 2475

diastereosel secondary – synth using aldehyde dimethyl tartrate acetals, 5453
enyne alcohols, reduction by Rieke Zn to dienyl alcohols, 299
enzymic synth opt active *cis*–epoxy–alcohols, 3043
γ–trimethylsilyl–αβ–epoxy–tert—, diastereosel synth, 5789; reactons forming chiral allylic tert–alcohols, 5793
homoallyl–, by addn crotyl–Mo complexes to aldehydes, 1271
homoallylic – synth by BF_3 promoted addn allyl(cyclopentadienyl)iron(II) dicarbonyl to aldehydes, 3001
homoallylic –, by cyclization epoxy–olefins, 243
homoallylic, stereocontrolled synth, 1073
homoallylic, synth using indium, allyl halides, and carbonyl compounds, 7017
hydroxy group protection, pivaloylaminobenzyl derivs, DDQ or hydrogenolysis to cleave, 4019
isoleucine, valine, extension to β–hydroxy–δ–aminoacids, 2395
oxidation by dioxiranes, mech of, 533
oxidation to aldehyde in presence of thioacetal unit, 4631
oxidation to aldehydes aromatic *N*–oxides catalysed by RuO_2–tetramesitylporphyrin, 7435
primary, by Ru–catalysed hydroformylation–reduction of olefins, 505
propargyl –, amino–dehydroxylation in Nicholas reaction, 2137
propargylic –, reduction to allyl – by LAH/MaOMe, 2339, 2343
steroidal homoallylic, oxidation to enediones by Pr_4NRuO_4, *N*–methylmorpholine oxide and ultrasound, 3201
sulfinylation by sulfonyl cyanides and DBU, 2585
tert— synth, (*S*)–prolinol as chiral auxiliary *via* 2–acyloxazolidines, 2919
tertiary –, dehydration by $BF_3.Et_2O$, 6489
tetrahydropyranyl ethers, conversion into bromides and iodides, 1081

Aldehydes
1,2–diol diacetates from, using $BrCH_2OCOMe$ and SmI_2, 2433
2,3–dihydrobenzaldehydes, synth from prenal enolates and enals, 4495
2,6–dibenzylbenzaldehyde, other 2,6–disubst aldehydes for porphyrin synth, 1703
3–formyloxyaldehydes, chiral synth from D–glucose, D–xylose, 367
α–bromo–, in homo–Pictet–Spengler cyclizations, 619
α–trifluoromethyl–αβ–unsaturated acids from, by Reformatsky reaction, 339
αβ–epoxy—, from photosensitised oxygenation of phytol, 6551
αβ–epoxyaldehydes, chiral, addn of Li enolates, 5345
addition of methyl–metal reagents to 2–(tetrahydrofuran–2–yl)acetaldehyde, 1937
addition to crotyl–Mo complexes, homoallyl alcohols from, 1271
alcohol oxidation in presence of oxidisable thioacetal unit, 4631
aldehydo–sugars, with ethoxycarbonylmethylene triphenylphosphorane forming 2–deoxy–6–formyl–3,6–anhydro–hexono–1,4–lactone dimethyl acetals, 7473
arabinose bis–acetonide, condn with vinyl thioether, 1809
aromatic –, $ISiCl_3$–promoted reaction with acrylonitrile, *N*–arylidene 3–aminopropenal, 5421
aromatic, addn to Li enolates in soln and solid phase, 1535
aromatic, with bis(aroylmethyl) sulfoxides forming chalcones, 7469
asymm Ag(I)–catalysed condensation with Me cyanoacetate, oxazoline formn, 2799
β–alkoxy–, α–trimethylsilylvinylcuprate addn to, 857
β–hydroxy–, two–step allylation forming methylenecyclohexanes, 843
benzaldehyde formed in radical elimination of benzyloxy group, 2017
benzaldehyde, stereoselectivity of addn to chiral allylstannanes, 453
carboxy–allylation, Pd–catalysed Sn–mediated, in α–methylene–γ–butyrolactone synth, 225
catalytic arylation of allyl alcohol to β–arylethyl aldehydes, 2121
chiral α–hydroxy—, synth from α–ketoaldehydes using (*S*)–prolinol as chiral auxiliary, 2919
citronellal, enantiosel reduction of by bakers' yeast, 2643
conversion into ethynyl group using $(EtO)_2PO.CHN_2$, 2343
cycloaddn to 5–alkoxy–2–aryloxazoles, Lewis–acid catalysed, 6911
diastereosel addn to 1,3–dithiane *trans*–di–oxide anion, 7743
diastereosel condn with γ–(trimethylsilyl)allylboranes, 3029
electroreductive coupling with halofluoro–compounds, products of further reduction, 6567
enolisable, condensation with Me acetoacetate, $CoCl_2$ catalysed, 1663
from primary carboxamides with Li bis– or tris–(dialkylamino)aluminum hydrides, 6903
fumaraldehyde, η^2– and η^4–iron carbonyl complexes, 7259
γ–oxy–δ–ketoaldehydes, intramol pinacol reduction by SmI_2, Tishchenko lactone formation by SmI_2OBu^t, stereochem, 5097
glyoxal derivs, hetero–Diels–Alder addns to 1,3–dienes, 1723
homoallylic ethers from by silyl–modified Sakurai reaction, 4779
hydrogenation of, $(\mu$–hydridodichromium decacarbonyl$)^-$ catalysis, 1199
ketol group transfer to, enzyme–mediated, 5085
methyl 5–formylpent–2–ynoate, reaction with 4–metallofurans, 903
monothioacetals from, using Si methodology, 467
nitriles from by Cu(II)–promoted ammonoxidation, 1007
pinacol cyclization 1,5/6–dials by SmI_2, *cis*–1,2–diols, 1125
piperonal, 3,4–dimethoxyphthalaldehyde, condn with *N*–BF_3–complexed t–amine α–anions, 3221
reaction with (*S,S*)–bis–p–toluenesulfinylmethane, asymm induction, 3695
reaction with allenic, propargylic pentaorgano–stiboranes, 6579
reaction with arsoniosilylated αβ–unsat enals forming furans, 2913
reaction with boron enolate in β–hydroxy–γ–amino amide synth, 2453
reaction with diphenyl 2–bromoallylboronate, synth 3–bromohomoallylic alcohols, 6749
regeneration from semicarbazones using $CuCl_2.2H_2O$ in acetonitrile, 5829
satd – by Ru–catalysed isomn allylic alcohols, 3039
stereoisomerism of BF_3 complexes, and reaction with α–alkoxyallyl stannanes, 2867
synth by hydrogenolysis acyldimethylsilanes, 457
synth by intramol Heck reactions involving allylic alcohols, 6113
synth perfluoroalkylacetaldehydes by radical addn R_P–SAr to enol ethers, 3385
synth secondary amides from using nitriles and $SiCl_3I$, 1825
thioacetalization using $FeCl_3$ on silica, 2259
$TiCl_4$–mediated reaction with buta–2,3–dienyltrimethylsilane, 4509

Vilsmeier–Haack formylation of glucal, galactal ethers, 3875
see also Enals

Aldol reactions
1–propanoyl–2,3–di(benzylmethyl)aziridine, reaction Li enolate with PhCHO, 2533
aldehydes with Li enolate of *N,N*–dimethylglycine ester, stereosel – in presence of Et_3B, 5521
aromatic aldehydes, addn to Li enolates in soln and solid phase, 1535
asymm Ag(I)–catalysed – of Me isocyanoacetate, 2799
asymmetric, chiral boron reagents in, 1749
Baylis–Hillman reaction, kinetics and mechanism, 5611
bornylaminesulfonic acid sultam as chiral auxiliary, 61
boron–mediated –, in two–directional polypropionate chain synth, 7601
chiral, of t–butyl bromoacetate with aldehydes, 2857
diastereoselective – of thian–4–one, polypropionate synth, 5369
dimer– and tetramerization of acetophenone promoted by diethylzinc, structure of dynopinacol, 6037
enantioselection in condensations using camphor–derived oxazolidone boron chelate, 5563
enzyme–catalysed, 7,8–dideoxy–4–octulose 1–phosphate, 3159
Evans – of α–aminoaldehydes, dependence of stereochem on reactant proportions, 7287
intramolecular, forming 13–membered ring of tetronolide, 4925
Mukaiyama reaction, catalysed by 10–methylacridinium perchlorate, 2405
N,O–dimethylacetamide Li enolate, addn to C=O compds, 2525
O–silylketene *O,S*–acetals, with Co–complexed and uncomplexed trimethylsilyl–propynal, 7553
pyruvate–pyridinecarbaldehydes, 6–amino–6–deoxy–[7]–β–cyclodextrin as enzyme model, 1207
retro–, in synth fused cycloheptanedicarboxylic acid, 4177
reverse –, synth hydroazulenediones from silyloxy–bicyclo[3.3.0]octene – ketene adducts, 6011
stereosel *anti*–, synth hydroxyethylene, *erythro*–dihydroxyethylene dipeptide isosteres, 6507
stereoselective, of β–oxoboronic esters, 1507
substd benzaldehydes with pinacolone dibutylboron enolate, substituent effects, 5239
tandem with amination of electrophilic olefins using $Ti(NR_2)_4$, 2371
transannular I^-–promoted aldol cyclization of 5–formyl–2–iodo–δ–lactone, 6227

Alkaloids
(±)– frog – indolizidine 209B, synth, 5889
(±)–coccinine, montanine, pancracine, *Amaryllidaceae* –, synth, 7079
(±)–corytensine, (±)–egenine, α–hydroxybenzyl tetrahydroisoquinoline – synth, 3221
(±)–δ–coniceine, indolizidine –, synth, 5051
(±)–deoxypseudophrynaminol, frog – analog, synth, 7641
(±)–epilupinine synth by transannular cyclization of 10–membered lactam, 5709
(±)–iso–oxy–skytanthine, synth, 3051
(±)–*O*–methyljoubertiamine synth using cyclohexadienyl $Fe(CO)_3^+$ complex, 1291
(±)–pumiliotoxin C, frog –, synth, 5697
(±)–sedridine, piperidine –, synth, 4371
(±)–septicine, (±)–tylophorine, synth *via* dihydropyridone intermeds, 5919
(±)–vasicine, pyrrolo–quinazoline, synth *via* 2,3–dioxopent–4–enoic ester, 7131
(+)–carnegine, tetrahydroisoquinoline –, synth, 6861
(+)–castanospermine, indolizidine –, synth, 4147
(+)–epiaustraline, (–)–epialexine, pyrrolizidine –, synth, 5513
(+)–lycoridine, phenanthridone –, synth, 4525
(+)–pinidine, piperidine –, synth, 5029
(–)–antirhine, synth using branched sugar lactone, 4483
(–)–cannabisativene, chiral synth, 1649
(–)–cocaine, pyrolysis, pathway to methyl 4–(3–pyridyl)butanoate, 4405
(–)–δ–*N*–normethylskytanthine, synth, 7233
(–)–heliotridane, (–)–isoretronecanol, pyrrolizidine –, synth *via* π–allyl iron tricarbonyl complex, 7119
(–)–nupharamine, (+)–3–epinupharamine, synth, 4325
(–)–slaframine, indolizidine –, enantiosel synth, 6469
(–)–solenopsin B, piperidine – from fire ant, enantiosel synth, 4159
(*R*)–reticuline to salutaridine, enzymic oxidation by pig liver cytochrome P–450, 3675
10α–hydroxymethylsparteine, quinolizidine – from *Genista sessilifolia*, struct, 5915
13–azabicyclo[7.7.0.$0^{1,6}$]hexadecane skeleton synth, towards fawcettimine, serratinine, *Lycopodium* –, 6219
19–hydroxytubotaiwine, indole *Strychnos* –, synth, abs config, 1787
alexines, pyrrolizidine –, synth from sugar lactones, 5517
aspidochibine, 3–oxo–14,15–dehydrorhazinilam, indole – from *Aspidosperma quebracho blanco*, 4949
asymm synth of intermed to (–)–koumine, (–)–taberpsychine, (–)–koumidine, 3895
β–carboline sponge –, reticulatine A, B, fascaplycin B, ms, nmr, structs, 1843
β–carboline tunicate –, eudistomidins E, F, proton, C–13 nmr, 3539
benzylisoquinolines, synth papaverine, norreticuline derivs by modif Pomeranz–Fritsch, 1775
canadine, tetrahydropalmatine, enzymic reduction protoberberines, 487
castanospermine, 6–acetamido–6–deoxy–, synth, 719
catharanthine, photoactivated oxidation, CN–addn, C16–C21 cleavage, 3035
codeinone derivs, photo–rearrangements, 7499
cuanzine, indole –, stereosel synth racemic, 4491
discorhabdin C, sponge alkaloid, synthetic approach, 2035
eupolauramine, synth of precursor, 4883
flavocorylene, synth by Westphal condensation, 7575
girolline, sponge –, diastereosel synth, 1419
glyfoline synth, 1,6–dihydroxy–2,3,4,5–tetramethoxy–10–methylacridone, 1541
hippadine, indolo–isoquinoline –, synth by Pd–catalysed cyclization, 3859
hydrastine synth, methylenation of diol, 2461
imeluteine, 6–azafluoranthene –, synth, 5277
indole, synth cadambine from secologanin, 1987
isonitramine, synth by intramol S_N2' lactam enolate alkylation, 1577
kimbasine A and B, sponge norsesterterpene –, pmr, cmr, 2347
litebamine, phenanthrene – from *Litsea cubeba*, 4169
magniflorine, indole – from *Hamelia magniflora*, isol, pmr, cmr, 5153

manzamine A, synth pyrrolo[2,3–*f*]isoquinoline portion, 6481
monocrotaline, dehydro–, nucleoside alkylation by, 927
N–nornitidine, benzo[*c*]phenanthridine –, synth, 5757
paraherquamide, chemical modification of vinyl ether moiety, 2437, substn at oxindole N, 2441
pictamine, quinolizidine – from tunicate *Clavelina picta*, 3667
prianosins C and D, 1,7–phenanthroline derivs from sponge *Prianos melanos*, structure revision, 1227
rubrolone, tropone – from mould, synth AB ring portion, 7643
silicine, ervatamine indole –, synth (±)–20–deethyl analog, 5413
strychnochromine, revised tetrahydroquinoline structure, nmr, x–ray, 4295
ungeremine synth by radical cyclisation, 65
verruculotoxin, fungal –, synth, 1417
vincadifformine, tabersonine, oxidative acylation by TFAA at t–amine centre, 5081
yuehchukene, indole –, synth, 1045

Alkanes
(5*RS*–9*S*)–5,9–dimethyl–heptadecane and –pentadecane, synth of moth pheromones, 2643
catalytic hydroperoxide oxidation, manganese cluster for, 1153

Alkenes
(*Z*)–trifluoromethyl—, synth by action of DAST on 1,1–difluoro–1–alken–3–ols, 5963
α–trifluoromethyl–α–methoxycarbonyl–, from aldehydes by Reformatsky reaction, 339
catalytic hydroperoxide oxidation, manganese cluster for, 1153
halofluorination, $Bu_4NH_2F_3$ as fluoride source, fluoroalkene synth, 1215
radical addn to iodomethyl phenyl sulfone, 3259
synthesis using 2–(alkylsulfonyl)benzothiazoles, 1175
trisubst olefin synth by selective *cis* or *trans* hydrostannylation of disubst alkynes, 7535
see also Olefins

Alkenylation
nucleophilic, α–tetralols to α–alkenyltetralins, 2087

Alkenyl halides
1–iodoalk–4–enes from 2–(α–acetoxyalkyl) tetrahydrofurans, 3059
alkoxycarbonylation using $HCO_2R/NaOR/PdCl_2(PPh_3)_2$, 4705
allylic fluorides, stereochemn of epoxidation, 6355
β–iodoalkenoic esters, aldehydes, γ–iodoallylic alcohols, 5229
dehalogenation and cyclization to C=O groups using $Bu_3Sn.SiMe_3/R_4NX$, 6139
pentafluoroallyl iodide, hexafluoropropene, reactions with methine bases, malononitrile, 4595
thiols from using $Me_2RSiSLi$, 2189
triple condn with allenes and carbanions, 1795
vinyl chloride – acetylene cross–coupling, $PdCl_2(PhCN)_2$.CuI in piperidine, 6109

Alkylation
1,3,2–diazaphospholidine 2–oxides, at P, 6297
2,3–alkanedi(cyclohexyl, isopropyl)imines, *via* α–anions, 3879
9–trimethylsilyl–9,10–dihydroanthracenes, anion formation and rearr, synth 9,9–dialkyl dihydroanthracenes, 3969
alkylation, nucleophilic, by dialkyl zirconocenes promoted by KOBu–t, 5893
aromatics on clay, reversal of mesitylene and toluene reactivities, 2901
Birch reductive – of aromatic ketones, 1929
C–methylation of phenol *via* Mannich base, 2083
calix[4]arenes, conformation and solvent effects, 2675
cyclopentadecanone and 15–hexadecanolide, 1027
diastereosel – of chiral binaphthol monocrotonyl esters and analogs, 7281
electroreductive – of cycloheptatrienes, 1051
Eschweiler–Clarke methylation of polyamines, fragmentation reactions during, 7755
Friedel–Crafts, 1,4–di(dodecahedryl)benzene, 5259
intramol lactam enolate alkylation, 1577
methylation 6–amino–8–pyrinone derivs, regiochem, 97
methylation, Eschweiler–Clarke, of β–aminopropionic acid, β–trimethylammonio–betaine, 3847
Mitsunobu *C*— of *o*–nitroaryl acetonitriles, 7195
N,O–dimethylation of intractable hydroxy–amide, 2395
N–methylation of aminoacids during hydrogenolytic deprotection in methanol–acetic acid, 7463
nucleophilic, α–tetralols to α–alkyltetralins, 2087
of sec amines at C(α) *via* β–hydroxyalkyl *N*–oxides and oxazolidines, 1443
of sodio–cyclopropenone acetals, 1339
of pentadienyl iron tricarbonyl cations, by Cu–Zn complex reagents, 113
reductive –, $R_2N–CH_2–1–$benzotriazolyl into $R_2N–CH_2–R'$ (R = allyl, alkyl), using $BiCl_3/Al/RBr$, 4247
regioselective – of 2–methyl–1–silylallyl carbanions, 2879
trans–α–stannyl epoxides, stereochem of reductive – by organo–Li reagents, 6305

Alkyl halides
bromides, cobaloxime–catalysed coupling to styrene, 6273
di–1–adamantylchloromethane, mech of dechlorination by BuLi in hexane, 2203
gem–dihaloalkanes, Co–catalysed diethylaminocarbonylation, 781
perfluorohexyl–, ring–opening to 1–bromo–tridecafluoro–2–octanol, no addn of PhMgBr, 3047
thiols from using $Me_2RSiSLi$, 2189

Alkynes
1–phenylthio–, Pd–catalysed hydrostannation, 5047
2′–deoxygenation of 2′–alkynyl–*arabino*nucleosides, 6003
acetylenes from 3,4–disubst isoxazolin–5–ones with $NaNO_2/FeSO_4$, 5321
alkynyl phenyliodonium tetrafluoborates, addn of H–Hal, synth β–halovinyliodonium salts, 4753
alkynyl–Cu(CN)Li, reaction with ICH_2ZnI forming dienes, etc, 1855
alkynyl–I^+–Ph BF_4^-, iodide reduction to alkynes, 4753
alkynylcarbenes, rearrangements, 983
arylalkynylalanes, benzylidenecyclopentanes from 1,4–tert–dihalides and, 521
β–hydroxy—, metal–catalysed ring–opening of epoxides by Li acetylides, 6617
bis(arylsulfonyl)acetylenes, synth, Diels–Alder reactions, 2177
bis–t–butylsulfonylacetylene, transformations of Diels–Alder adducts from, 4579, 4583
but–2–yne–1,4–diol, conversion into 2,3–dialkyl–1,3–butadienes, 2865

but–3–yn–1–ol, carboxylation and elaboration to β–keto–δ–valerolactone, 3063
chiral ethynyl sulfoxides, addn of nucleophiles, 4907
dialkylaminopropynoic esters, nitriles, cycloaddn to 2–arylideneindane–1,3–diones, 4051
diethylacetals of prop–2–ynal, but–3–ynal, 2–methylbut–3–ynal, addn of tributyltin–copper lithium reagents, 6333, 6337
dimethyl acetylenedicarboxylate, reaction with [1,2,3]triazolo[1,5–*a*]pyridinium ylids, 4977
electrophilic –, addn to triphenylphosphine in microemulsion, 2615
ethyl propiolate, radical [2+2+2] cycloaddn to acrylic esters, 5101
from aldehyde using $(EtO)_2PO.CHN_2$, 2343
halo–, by action of $(Me_3SiO)_2$ and CuX_2 or ZnX_2 on 1–alkynes, 2169
heterocyclic azine ligands, ethynyl–substituted, 757
hydroformylation of β–alkynamines, pyrroles from, 1093
hydrostannylation, selectively *cis* or *trans*, in trisubst olefin synth, 7535
intramol addn of nitronate anion to, 1363
Me tert–propargyl carbonates, synth Me 1,2,4–triene–5–carboxylates by Pd–cat reaction with Me acrylate, 3397
methyl 5–formylpent–2–ynoate, reaction with 4–metallofurans, 903
o–alkynyl–α–diazoacetophenones, Wolff rearrangement with cyclization, 5923
phenylacetylene, catalytic conversion into α–phenylpropionic acid, 1769
reaction with bis(2,4,6–triisopropylphenyl)borane, 6239
silylethynyl β–hydroxyalkyl ketones, synth and stereosel reduction by DIBAL–H, 2219, 2223
synth from halides using triorgano–Tl reagents, 2255
terminal –, 4–biphenylyldialkylsilyl group for protection and formn crystalline derivs, 3787
terminal –, hydrozirconation, transmetalation and alkylation, synth *trans*–alkenes, 5647
terminal, Pd–catalysed coupling to bis–enol triflate, 1449, 1453
terminal, Pd–catalysed coupling to trifluoroacetimidoyl iodides, 1459
trifluoromethyl–, synth from β–chloro–β–(trifluoromethyl)–enals, 3071
vinyl chloride – acetylene cross–coupling by $PdCl_2(PhCN)_2$.CuI in piperidine, 6109
see also Cycloalkynes, Diynes, Enynes, Enynones, Ynamines

Alkynyl halides

1,4–dibromo–2–butyne, conversion into heterocyclic di– and poly–ynes, 2883, 2887
1,4–dichloro–2–butyne, reaction with RZnBr in presence of CuCN.2LiBr, formn of 2,3–dialkyl–1,3–butadiene, 2865

Allenes

1–diphenylphosphinoyl–, 1–phenylsulfinyl–, and 1–phenylsulfonyl– 1–(ω–iodoalkyl)—, radical cyclizations, 3659
1–trimethylsilyl–1–tosyl—, alkyl–Li addn, reaction with SO_2, thiophene formation, 3867
alkoxy–, Pd–catalysed hydrostannation, 1187
allene substitute in cycloaddns, α–methylene–β–lactones, 7033
alleneacetic acid esters by reduction by s–$Bu_2Cu(CN)Li_2$ of pent–2–en–4–ynoate esters, 7229
allenylsilanes, reaction with benzyl alcohols giving dihydronaphthalenes and spiro–trienones, 2327
β–methoxycarbonylvinyl—, synth by Pd–cat reaction Me tert–propargyl carbonates with Me acrylate, 3397
bromo—, copper–catalysed aminolysis to propargylamines, 7471
bromoboration of –, *in situ* reaction of (2–bromoallyl)dibromoborane with anisole, 6749
buta–2,3–dienyltrimethylsilane in synth 2–α–hydroxyalkyl)–1,3–butadienes, 4509
carbopalladation of in steroid synth, 915
carbopalladation, synth dienyl β–ketoesters, malonate esters, 1795
chiral synth and ozonolysis of allenyl alcohols, 5713
cyclonona–1,2–dien–4–one ethylene acetal, acid–catalysed cycloaddn to 1,3–dienes, 6473
intramol Ag^+–catalysed addn of N–H group to *O*–(2,3–butadienyl) carbamates, 4–vinyl–2–oxazolidinone synth, 6359
optical resolution of allenes by chromatography on cellulose triacetate, 7225
phenylallenes, dye–sensitised photo–oxygenation, 1859
sulfonyl–, intramol cycloaddns of, 1351

Allylation

1,4–oxathian–2–one, – at S and rearr of ylid, 335
α–ethoxycarbonyl–, Pd(II)–Sn–mediated butyrolactone synth from aldehydes, 225
allylic acetates with phenylthio–group adjacent, regiosel reaction with silyl enol ethers, 4311
anionic, of chiral imines by allyl–Cu reagents, 1367
bis(hydroxymethyl)acetaldehyde, asymm induction in – to 2–hydroxymethylhex–5–ene–1,3–diol derivs, 6939
C— of *N*–(diphenylmethylene)glycine ester by LDA/allylic iodide, 7203
catalytic de—, Ir–catalyst for double bond isomerization, Me_3NO/OsO_4 (cat) for cleavage, 7369
indium for – of aldehydes, ketones in aqueous media, 7017
monomenthyl cyclopentane–1,2–dicarboxylate, *C*—of Li enolate, stereochem, 4541
nucleophilic reactivity of allylsamarium complexes, 629
Pd–catalysed – at Me of 6,6–diMe fulvene, 5247
radical, of α–haloesters by Allyl–$SnBu_3$, 27
sequential 2– and 1–electron – using 3–phenylthio–2–(trimethylsilylmethyl)propene, 843

Aluminum compds

1–alkenyldiisopropylalane, reaction with protected glycosyl fluorides, 2199
alkyl–, alkyl–fluoro–alanes, catalysts for hydrofluorination of anhydrothymidine, 2091
alkylalanes, reaction with azodiformic mono–amide mono–ester, 3079
arylalkynylalanes, benzylidenecyclopentanes from 1,4–tert–dihalides and, 521
determination of lithal purity/concentration, 4309
diaryloxy–Al–methyl, Lewis acid catalysts for 5–alkoxyoxazole–aldehyde cycloaddn, 6911
diethyl cyanoalane, reaction with chiral β–ketosulfoxides, 3195
Li bis–, tris–(dialkylamino)aluminum hydrides, reduction of primary amides to aldehydes, 6903
trialkylalanes, alkylation and deoxygenation of 2–lithio–2–triphenylsilyloxirane by, 2783
trichloride in oligomerization of acyl chlorides, 2153
trimethylalane, ring–opening of chiral epoxides by, 1059
trimethylalane catalyst in reaction of Grignard reagents with chiral sulfinamides, 5885
trimethylalane, reaction with chiral 2–*p*–tolylsulfinyl cyclohexanones and cyclopentanones, 3191

tristrimethylsilylalane, vinylsilanes from, 855
tristrimethylsilylalane, synth of acylsilanes from acylthiopyridines and, 4929
vinyl diisobutyl alanes, dibutyl methyl vinyl alanates, conversion into vinyl trialkyl stannanes, 7647
vinyl–Al reagents, Pd–catalysed cross–coupling α–iodo–enones, 4453

Amides
2,3–epoxy–4–oxo–7,10–dodecadienamide, enantio–, stereo–sel synth from D–tartaric acid, 6771
α–aryloxy–βγ–epoxy–amide, synth in Passerini reaction, 3807
α–chloroacetamides, *N*–vinylic, cyclization by Bu_3SnH, 1725
α–fluoro–tert–, by enolate fluorination, 1779
αβ–unsaturated tert–, reductive dimerization by SmI_2, 6557
αβ–unsaturated, radical addn to, 707
acetanilide nitration by NO_2/O_3, *ortho*–selectivity, 6591
acetanilides from nitroarenes, Ru–catalysed reductive acylation by AcOH and Me formate, 4917
aminoacid – from enol esters, 5359
β–hydroxy–, reduction to β–aminoalcohols by $LiAlH_4$, 1901
βγ–unsat –, synth from β–(diethoxyphosphoryl)propionic acid, 6231
borohydride reduction of α–methyl–β–keto–amides, effect of $ZnCl_2$, $CaCl_2$, $MnCl_2$ on stereochem, 6147
carboxamide protection by trityl group, 739
diastereomeric 2,2,2–trifluoro–1–phenylethylamides, ^{19}F shifts, 987
diethylbenzamides, *ortho*–lithiation in synth saccharin analogues, 7179
formation from acids using lipases, 2763
from acids, activation by *N,N,N′,N′*–tetramethyl–*O*–succinimidouronium fluoborate, 1157
Hofmann rearr of – using $PhI(OCOCF_3)_2$, 4249
lipase–catalysed synth from esters and amines, 761
malonamides, *N,N,N′,N′*–tetraethyl–, from gem–dihalides, CO, $NHMe_2$, Co catalyst, 781
N–(α–silylbenzyl)amides, Si–shift and azomethine ylid generation, 5813
N–allyl acetamides, Co–catalysed synth from allylic alcohols, 6965
N–allyl–, aza–Claisen rearr to allylacetonitriles in presence dehydrating agent, 179
N–methyl–, from ketones *via* acetals using *N*–methyl *p*–nitrobenzenesulfonyloxyamine, 2429
N–propargyl nicotinamides, isoquinoline–1–carboxamides, intramol cycloaddn, synth of isoindolin–1–ones, benz[*e*]isoindolin–3–ones, 5481
o–pyrrolidinocarbonylbenzamides, from phthalimides, conveys base stability, 3301
oligo–, intramol hydrogen–bonding, MM studies, 3613, 3617
optically active, by enzymic hydrolysis of nitriles, 1343
primary –, reduction to aldehydes with Li bis– or tris–(dialkylamino)aluminum hydrides, 6903
reduction to alcohols by SmI_2/base, 3511
replacement in dipeptides by imidazoline, 2277
secondary, from nitriles and aldehydes using $SiCl_3I$, 1825
stereosel synth of (2*R*,4*S*)–4–amino–2–methylpentanamide derivs, 5749
succinamides, by [3,3]–rearr of *N,N′*–diacylhydrazine dienolates, 4517
trichloro–diacetanilides, synth, selective *para*–dechlorination, 7191

Amidines
asymmetric 1–alkylation of 1,2,3,4–tetrahydroisoquinolines *via* chiral formamidine derivs, 5501; racemisation of 1–chiral derivs on lithiation, 5505; mech of alkylation, 5509
chiral imidazolines from cyclic sulfates using, 999
cyclic amidinium salts, synth, 5031
form–, 4–fluoropyrimidines from α–trifluoromethylalkyl ketones and, 2467

Amido–ketones
3–aminoindan–1–ones, alkoxy–, synth by Friedel–Crafts cyclization β–acylamino–β–arylsuccinic acids, 6327

Aminals
cyclic *O*–allyl ketene –, 3–subst piperidones, pyrrolidones, by Claisen rearr, 4199
glyoxal chiral monoaminal mono–dimethylhydrazone, asymmetric α–aminoaldehyde synth, 1171
N–acyl–*N′*–benzyloxycarbonyl–, Hg^{2+}–promoted cyclization to 2,5–disubst imidazolidin–2–ones, 1971
N–acyl–*N′* sulfonyl–, part structure in retrosulfonamido peptide analog, 6779
tryptophan, *N,N′*–ethylidenebis–, identity with "contaminant 97", 991

Amination
asymmetric – of carboxylic acids, 5349
by trisyl azide, of chiral 3–(subst–phenylacetyl) 2–oxazolidinone, 2663
electrophilic BOC–, of organometallic species, 2359
enolate – by di–t–butyl azodiformate, 6851
nucleophilic, using $Ti(NR_2)_4$, 2371
of chloronitrobenzene using microwave heating, 5251
tropone to 2–aminotropone by hydrazine, 1051

Amines
(±)–*trans*–1,2–diamino–1,2–dimethylcyclohexane, synth, 1711
(*S*)–*N*–methyl–1–phenyl–2–piperidinoethylamine, (S–MAPP), chiral ligand for cuprate reactions, 3973
1,2–diamines from glyoxal bis(diphenylmethylimines), chiral from bis(α–phenylethylimines), 5865
1,4–diazabicyclo[2.2.2]octane, (+)–*trans*–2,3–diphenyl–, synth, 4853
2,2,2–trifluoro–1–phenylethyl–, synth, resolution, 987
7–(amino– and subst amino)–5,6,7,8–tetrahydroquinolines, synth, 6789
α–anions of *N*–BF_3–complexed tert–, condn with aldehydes, 3221
α–arylethylamines, enantiosel synth, 7175
α–lithio–t–, generation, use, 1975
alkoxycarbonylation of – using di–2–pyridyl carbonate and alcohol, 4251
anilines, 2–halo–, quinolin–4–ones from using acetylenes/CO/Pd(0), 237
aromatic, reaction with formaldehyde and cyclopentadiene, 7099, 7103
benzyl transfer in benzylamine on clay, redox process, 303
benzylamines, conformation in vapor phase by MRES, 3945
Co–complexed allyl propargyl amines by Nicholas reaction, 2137
from nitroalkanes by reduction with SmI_2, 1699

Heck cyclization *N*–(2–haloallyl)cyclohex–3–enylamines to 2–azabicyclo[3.3.1]non–6–enes, 1695
Hofmann rearr of amide using $PhI(OCOCF_3)_2$, 4249
homoallylic primary –, sterocontrolled synth *via* 2–isoxazolines with 5–(diphenylphosphinoylalkyl) subst, 4171
hydroformylation of β–alkynamines, pyrroles from, 1093
Michael addn to nitro–cycloalkenes, 1363
o–iodoaniline, quinolines by Pd–catalysed coupling to allyl alcohols, 569
polydi/trimethylenimines, linear and cyclic, fragmentation reactions during Eschweiler–Clarke methylation, 7755
primary (*E*)–allylic –s, synth from *N,N*–bistrimethylsilyl (*E*)–3–tributylstannylallylamine, 4121
primary –, conversion into phosphoric acid monoesters by nitrosation, 3145
propargylamines, by copper–catalysed aminolysis of bromo–allenes, 7471
resolution of racemic – by distillation from chiral acid, 7325
secondary – α–alkylation, *via* oxazolidines from β–hydroxyalkyl t–amine *N*–oxides, 1443
secondary, enhancing displacement rates by azide, 663
secondary, *via* alkylation of *N*–lithio–triphenylphosphinimine, 347
tertiary –, oxidation and acylation by TFAA, β–trifluoroacetyl enamines, 5081
tertiary –, synth from 1–benzotriazolyl Mannich bases using $BiCl_3$/Al/alkyl or allyl halide, 4247
tritylated bromoalkyl–, synth of poly–S–N– and poly–N–ligands, 21

Aminium salts
electron–transfer from hindered olefins to Ar_3N^+, 117
reaction with phenyldiazomethane, 729

Amino acids
(±)–2–fluoromethyl, –difluoromethyl tyrosine derivs, 887
(±)–2–piperazinecarboxylic acid, synth from 4–piperidone, 2469
(–)–D–*threo*–4,5–dihydroxy–L–valine, synth from D–ribonolactone, 1979
(2*S*,3*R*)–2–carboxy–3–pyrrolidineacetic acid, diastereosel synth, 3057
(*E*)–5–amino–6–phenylhex–3–enoic acid, synth, 4969
(*E*)–α–(2–phenylcyclopropyl)glycine, asymm synth, 541
(*S*)–3,5–dihydroxyphenylglycine, synth, 2663
11–aminoundecanoic acid as peptide sequence surrogate in cyclic polypeptide ANF, 7735
2–amino–6,6–pentamethyleneoct–4–enedioic acid, disulfide mimetic, synth, 7203
3–amino–2–arylpropanoic acids from benzylic lithiation of *N*–pivaloylphenylethylamine, 1963
3–phenylisoserine, asymm synth *via* β–lactam, 3151
4–dimethylamino–2,3–dihydroxy–5–methoxypentanoic acid, stereosel synth calyculin fragment, 5983
5–amino–4–hydroxy–6–phenylhexanoic acid, stereosel synth from dideoxy–D–glucose, 1897
α,α–dialkyl—, *N*–protected dipeptides containing, 3407
abs configuration of by modified Mosher's method, 2939
aminoacid fluorides, synth, use in peptide synth, 1303
β–aminopropionic acid, Eschweiler–Clarke methylation, β–trimethylammonio–betaine, 3847
β–arylthiovinyl–, β–alkylthiovinyl–glycines, synth, 4717
chiral synth 2–amino–6–hydroxy–4–methyl–8–oxodecanoic acid, leucinostatine constituent, 3985
chiral synth on 1,2;5,6–di–*O*–isopropylidene α–D–glucos–3–ulose template, 5801
cyclodehydration of β— to β–lactams by MsCl/$NaHCO_3$, 2299
cysteine to cystine oxidation in peptides by DMSO–TFA, 1223
D–isoglutamine, chemoenzymatic synth, 3529
enantiosel synth of α— *via trans*–2,5–disubst imidazolidin–2–ones, 1971
ethylene glycol cross–linked α–aminoacid, 1283
glycine residues, α–subst, by $Pb(OAc)_4$ oxidn of serine, threonine moieties, 3163
histidine, cleavage of imidazole ring to asparagine residues by Ru(VIII), 5615
histidine, protection and incorporation in solid–phase peptide synth, 475
homocysteine, *S*–phenyl–, synth protected, 4717
hydrolytic fragments of calyculin, 2–methyl–4–aminobutanoic, 2,3–dihydroxy–4–dimethylamino–5–methoxypentanoi c acids, cd, abs stereochem, 5605
hydroxy–, *N*–Fmoc–*O*–trityl protection and use in solid–phase peptide synth, 471
L–arginine, triple–*N*–protection as urethanes, *via* silyl derivs, 6025
L–diphenylalanine, L–(9–fluorenyl)glycine, synth by alkylation of benzophenone imine of glycyl camphor sultam, 6547
L–N^G–hydroxyarginine, synth, N–15–labelled, 875
L–pyroglutamic acid, asymm pyrrolidin–2–ones from, 1379
L–pyroglutamic acid, synth ant venom pyrrolines, pyrrolidines from, 7521
L–valine incorporation into isobutyric, methacrylic acids in beetle, 4849
mixed carbonic anhydrides, borohydride reduction, 923
N–(2,4,6–trinitrophenyl)aminoacids, photolysis, 5823
N–acetylhistidine, enzymic oxidative coupling to side–chain of *N*–acetyldopamine, 4287
N–aryl— *N*–carboxy–anhydrides, condn with ester enolates, γ–amino–β–ketoesters, 3115
N–Boc–statine, synth from *N*–Boc–leucinal, 6783
N–methyl–, peptide coupling of, 1967
N–methylation during hydrogenolytic deprotection in methanol–acetic acid, 7463
N–protection using azidomethyloxybenzyloxycarbonyl group, 351
non–proteinogenic – with three chiral centres, 2679
O–phosphoryl–tyrosine, –threonine, –serine, 1347
O–phosphoserine, improved protection for solid–phase synth, 7083
phosphonomethylphenylalanine, incorporation into polypeptides as phosphotyrosyl analogs, 6061
pipecolic acid enantiomers, conversion into protected 2–aminomethylpiperidines, 7183
S–glycosylation of Fmoc–cysteine, –homocysteine, *O*— of Fmoc–serine, –threonine, 7613
serine *O*–sulfate, macrolide component from tunicate, 797
serine, tyrosine, *O*–phosphoryl–, incorporation into peptides, 5389
statine, 4–*epi*–statine, synth by radical cyclization, 401
stereosel synth dolaisoleuine, dolaproine, dolaphenine, dolastatin constituents, 931
synth *cis*– and *trans*–pyrrolidine–2,4–dicarboxylic acids, analytical resolution, 3049
threonine, D– and L–*allo*–, and tritiated, from serine, 1031
topographically constrained –, tetrahydroisoquinoline–3–carboxylic acid isomers, 5769
trans–L–4–hydroxyproline, synth acromelic acid congeners from, 2625

tryptophan, *N,N'*–ethylidenebis–, identity with "contaminant 97", 991

Amino acid esters

(*S*)–valine t–butyl ester, β–carboxy–enamines from, asymmetric benzoyloxylation, 5899

α–aminomethylation using *N*–bromomethylphthalimide, 2277

β–amino–β–arylpropionic esters, by baker's yeast catalysed chiral β–amination reaction, 6611

conversion into 1,2,5–thiadiazolidin–3–one 1,1–dioxides, hydantoin analogs, 6545

DL–*p*–nitrophenyl *N*–dodecanoyl phenylalanate, enantiosel hydrolysis by tripeptide in hybrid micellar assemblies, temperature and composition effects, 6597

enol –, *N*–protected, Ru–catalysed synth, amides and dipeptides from, 5359

glycine esters, Michael addns of anion of Schiff bases from, 3727

glycine, β–C–ribofuranosyl, synth *via* phosphoryl glycine esters, 2113

methyl statine, methyl cyclohexylstatine, γ–amino–β–hydroxy–esters, enantiosel synth, 3523

N,N–dimethylglycine ester, Li enolate, stereosel aldol condensation in presence of Et_3B, 5521

N–fluorenylmethyloxycarbonyl –, synth hydroxybenzotriazinone and pentafluorophenyl esters, 6199

prolines, synth from Michael adducts of glycine Schiff bases, 3727

racemization by polymer–anchored pyridoxal, for recovery of unwanted antipode, 7401

secondary, azomethine ylids from, cycloaddns, 1359

serine, threonine, *O*–glycosidation *via* benzophenone Schiff's bases, 585

tryptophan methyl ester, Pictet–Spengler reaction, 3895

Amino alcohols

(1–hydroxy–2–piperidinopropyl) benzenes as chiral catalysts, 95

(*R*)–phenylglycinol chiral auxiliary in Strecker synth, 7597

(*S*)–prolinol, 2–acyloxazolidine from, chiral auxiliary in t–alcohol synth, 2919

1,2–, synth from α–lithio–t–amines and keto–compds, 1975

1,4– and 1,5–, Mitsunobu cyclization to pyrrolidines, piperidines, 161

1–(3–hydroxypropyl)–piperidines and –pyrrolidines, SET photocyclization of, 5147

2,3–dihydroxy–amines, from Sharpless epoxides by Ti(IV)–mediated ring opening by primary amines, 6931

2–amino–1,5–diols, asymm synth from pyroglutamic acid, 6949

2–amino–3–methylcyclopentanols, stereosel synths from cyclopentenone and pulegone, 6851

α–, from α–TBDMS–oxy–aldehydes *via* imines and organometallics, stereochem, 2967

abs configuration of by modified Mosher's method, 2939

aminocyclitols, synth conduramine A–1, dihydroconduramine A–1, 6077

β–, by reduction of β–hydroxyamides by $LiAlH_4$, 1901

β–amino–alkanols, *via O*–methyl–*N*–2–hydroxyalkylhydroxylamines, obt in pinacol–type reaction, 525

chiral β–, *N*–protected, by mixed anhydride reduction, 923

cis–1,2–, by borane reduction α–hydroxyoxime *O*–benzyl ethers, 711

cleavage β–aminoalcohol to aldehyde by $Pb(OAc)_4$ in β–lactam, 3109

enantiosel enzymic acylation of 2– and 3–hydroxymethylpiperidines, 4197

from carbonyl compds and *O*–benzylformaldoxime by SmI_2 coupling and reduction, 3555

photofragmentation of 2–morpholino–1,2–diphenylethanol by Rose Bengal and derivs, no role of oxygen in, 7507

polyhydroxy–cyclohexylamines, –methylcyclopentylamines, synth from D–glucosamine, 5123, 5363

synth 5–amino–6–cyclohexyl–4–hydroxyhexanoic acid lactone, intermed to renin inhibitor isostere, 4503

Amino aldehyes

asymmetric, from glyoxal chiral monoaminal mono–dimethylhydrazone, 1171

N,N–dibenzyl–α–, with alkoxytitanium homoenolates, hydroxyethylene dipeptide isosteres from, 233

N–(t–butoxycarbonyl)–, reaction with titanium homoenolates, 1867

N–Boc derivs, with β–trimethylsilylethylidene triphenylphosphorane forming β–silyloxy homoallylamine derivs, 6783

prolinal in synth β–carboline tunicate alkaloids, 4875

prolinal, conversion into dolastatin component, 2395

serinal deriv in synth calyculin fragment, 6977

Amino ketones

16–oxo–17–*N*ε–lysinyl steroid by Heyns rearrangement of 16–hydroxyestrone imine deriv, 1213

diastereoselective Mannich base synth from boron enolates and aminals, 73

N,N–dimethylaminoalkyl cyclohexenones, photocyclizations, 7151

synth by amination of ketone enolates *via* azodicarboxylate adducts, 5927

Amino nitriles

α–aminonitriles, Strecker synth with (*R*)–phenylglycinol chiral auxiliary, 7597

α–aryl–α–morpholinoacetonitriles, *o*–halobenzylation and synth dihydrobenzocyclobutenols from, 2171

Amino sugars

1–β–amino–1–deoxynojirimycins, glucosidase inhibitors, synth, 7199

1–glycosylamines of 2–acetylamino–sugar, N^{β}–asparagine deriv from, 3445

2–amino–2–deoxy–hexopyranoses, *N*–protected, selective 6–halodehydroxylation, 3977

2–amino–*C*–glucosides and spiroacetals, 5021

acylation of glycosylamines by 3–acyl–5–methyl–1,3,4–thiadiazole–2–thione, 1557

allyl *C*–glycoside of *N*–acetylneuraminic acid, chemo–enzymatic synth, 3953

aminoglycosylation of solid–phase bound serine peptides, 1531

asymmetric synth C–5 branched aza–sugars, 3169

cladinose, protection of glycoside as *N*–oxide, 6155

epoxyalkyl *N*–acetylglucosamine glycosides, transglycosylation, 1413

neuraminic acid analogues lacking C7–C9, synth, 7025

O–protected *N*–acetylneuraminic acid–α(2→6)–D–gal thioglycoside, synth as building block for sialosides, 7453, synth corresp α(2→3)–D–gal, 7457

oligosaccharide oxazolines, amidoglycosides from, 4447

reductive decyanation, fused oxazolidine sugars from, 1371

Ammonium salts
bicyclo–, using 2–nitro–3–pivaloyloxypropene and cyclic β–enaminoesters, 2319

Annulation
cyclohexa fusion to angelicalactone by radical process, 199
cyclopentene – with ring expansion, hexahydroazulen–4–one from cyclohexane, 7361
dioxiran oxidation of alcohols, mech by ^{18}O labelling, 533
Dötz benz— in synth of steroid analogs, 7759
methylenecyclopent— of double bonds, thiyl radical catalysed addn of 2–isopropylidenecyclopropane–1,1–dicarboxylic ester, 5765
spiro—, using 1,2–methylenecycloalkane magnesium complexes, 5269
[3+3]– forming methylenecyclohexanes, two–step allyl residue addn, 843
[4+1]–cyclopentannulation in synth steroid C(1)–C(11)–methano–homologs, 3673

Annulenes
10,11,12,13–tetradehydro[19]annulenone, 9,14–dimethyl–, conformation and configuration in neutral, acid soln, 5129
10b,10c–dialkyl–10b,10c–dihydrodicyclopenta[*ef,k l*]heptalenes, bridged [14]annulenes, 735
oxa[17]annulene, pyreno[1,2–*c*]furan, *trans*–10b,10c–dihydro–10b,10c–dimethyl–, nmr, aromaticity estimate, 6319

Anthocyanidins, anthocyanins
alatanins A–C, from yam *Dioscorea alata*, struct, 5575, cd, stability, and stacking, in alatanin C, 5579
cyanodelphin, delphinidin tetra–*p*–hydroxybenzoyl heptaglycoside from *Delphinium* hybrid, 6375

Anthracenes
1,4–diacetoxy–, [4+4]–cycloaddn to 4,5–dimethoxy–1,2–xylylene, 3183
2,6–dialkoxy–, cycloaddn to cholesteric fumarate esters, 1729
1–methoxy–4–trimethylsilyl–1,4,4a,9a–tetrahydro—9,10–dione, 2197
9,10–bis(4,5–dimethyl–1,3–dithiol–2–ylidene)—, 2,3–dipentyl–, synth, cyclic voltammetry, cryst structure, distorted central quinodimethane ring, 6029
9,10–dicyano–, electron acceptor in photocatalytic benzylic oxidation, 4291
9,10–dihydro–, microbial hydroxylation, 3887
9–phenyl–9,10–dihydro— anions, C–13 chemical shifts, AM1 calculations, and geometry, 5659
9–trimethylsilyl–9,10–dihydro—, anion formation, alkylation, Si–9→10–rearrangement, synth 9,9–dialkyl dihydroanthracenes, 3969
anthraquinone derivs vineomycin, fridamycin, side–chain introduction, 5103
anthraquinones, reaction with α–lithio–*N*–methylbenzamide, 3845
bond–*a*–fused –quinones, synth 3–deoxyrabelomycin, 3803
fluorescence photoinduced electron transfer in derivs, 421, 425
photochemistry in water, O_2–free amd oxygenated, 5737
quinizarin deriv, 1,4–anthraquinone deriv from, 1109
regiosel lithiation of methyloxymethyl deriv using BuLi–t–BuOK, 4337
[6](1,4)–anthracenophane, cycloaddns with TCNE, DMAD, 359

Antibiotics
(±)–4–epi–acetomycin, synth, 6421
(±)–5–iminodaunamycinone and 4–desmethoxy deriv, synth, 1109
(±)–acetomycin, γ–butyrolactone –, synth, 3381
(+)–cerulenin, (+)–tetrahydrocerulenin, (*Z*)–3–acyloxiran–2–carboxamides, stereosel synth from D–tartaric acid, 6771
21–membered lactam –, (+)–trienomycin F, synth, 1627
5′–deoxy– and 5′–deoxy–juglomycin A, naphthoquinonoid –, synth, 6417
6β–hydroxy–3,4–dihydromilbemycin E synth, 2269
aclacinomycine A, anthracycline –, asymm synth AB ring fragment, 7671
andrimid, diamide–succinimide, stereosel synth, 4393
angularly fused anthracycline analogs, synth 3–deoxyrabelomycin, 3803
anthracycline synth, (±)–carminomycinone, daunomycinone, 6179
anthracycline, 3′–thio–3′–deamino–doxorubicin analogs, 3313
anthramycins, approach to synth, 2233
aranorosin, synthetic approaches to, 6613
avermectin–nemadectin synthetic hybrid, 3663
BE 10988, topoisomerase II inhibitor, a 3–(2–thiazolyl)indole–4,7–quinone, source unspecified, 2791
butalactin, butanolide from *Streptomyces corchorusii*, 141
calcheamicinone analogs, synth and resolution of intermediates, 6667, 6671
cervinomycins, xanthone –, synth A_1 and A_2 triMe ethers, 5195; synth A_1 and A_2, 5199
clavalanine, synthetic precursor to, 1979
cyclothiazomycin, renin inhibitor from *Streptomyces sp.*, 217, 221
dynemycin A, reductive rearr to dynemycin H, 6007
enopeptin A, B, depsipeptide – from *Streptomyces* sp., struct, nmr, 7707
erythromycin A, synth by glycosylation of dihydroerythronolide A, 6155
erythromycins A, B, nargencin A_1, biogenesis, 5457
esperamicin, abs configuration of hydroxylamino–sugar fragment, 1851
grahamimycin A_1, synth reduced seco–deriv, 517
herbimycin A, benzoquinoid ansamycin –, synth, 6015
jadomycin, 1,3a–dihydrobenz[*b*]oxazolo[3,2–*f*]phenanthridine 8,13–quinone deriv, from *Streptomyces venezuelae* ISP5230, 6301
kapurimycin A3, deoxytetranucleotide cleavage, mech, products, 7719
leinamycin, synth dithiolan–3–one 1–oxide moiety, 6625
lissoclinotoxin A, a tunicate benzotrithiole, 911
lydicamycin, pyrrolidine–tetramic acid from *Streptomyces lydicus*, 213
macrolides A83543 A–D, with tetracyclic undecanolide aglycone, 4839
macrolides, synth C(11)–C(17) fragment tylonolide, 267
maniwamycin A, azoxy–olefin, synth, 1067
micrococcinic acid, poly–thiazole – component, synth, 4263
mycotrienins I and II, stereochemistry, 841
neocarzinostatin, protein complexation to chromophore, 3175
pamamycins 635A,B, 649A,B, tetrahydrofuranoid macrolides from *Streptomyces alboniger*, 3087
pentenomycin I, epipentenomycin I, synth (±)–forms, 275
peptide –, leucinostatine, chiral synth 2–amino–6–hydroxy–4–methyl–8–oxodecanoic acid and 4–methyl–2–hexenoic acid, 3985

thienamycin, synth precursor by cyclization allylaminocarbonylcobalt(III) deriv, 259
tirandamycin A, asymm synth *via* chiral borate enol ester, 1749
vancomycin, synth of C–terminal dipeptide, 2663
vineomycin, fridamycin, anthraquinone –, side–chain introduction, 5103
viridenomycin, 24–membered polyene lactam–lactone, 659

Antibodies
ADEPT prodrug, cephalosporin nitrogen mustard carbamate, 3269

Antigens
rabbit anti–coniferyl alcohol–bovine serum albumin conjugate, prep, 5255
tetrasaccharide segment of *Mycobacterium avium* serotype 4 –, synth, 6191
trisaccharide of immunogenic lipopolysaccharide, synth L–α–D–Hep–(1→3)–L–α–D–Hep(1→5)–α–Kdo, 2747

Antimony and compds
allenic, propargylic pentaorganostiboranes, generation, reaction with aldehydes, 6579
pentachloride, for deprotection of 1,3–dithiane derivs, 7421

Arboranes
silvanol, calix[4]arene incorporating arborol groups, 1133

Arenes
1,3,5–triarylbenzenes, tris–cyclopentene–, –cyclohexene–annulated benzene, by trimer–condensation –CO–CH_2– compounds using $SiCl_4$/EtOH, 4175
α–(phenylthio)vinylation, acylation, of – using α–(phenylthio)vinyl tin trichloride and molecular sieve, 5567
alkyl benzenes, iron(III)–catalysed Gif–IV oxidation, 2547
benzylation on clay, reversal of mesitylene and toluene reactivities, 2901
hydroximinoalkylation by hydroxynitrilium ions, 3075
synth benzene rings by tandem Pd–catalysed en–yne cyclization and coupling to alkyne, 4167
toluenes, subst, selectivity in H abstraction from by oxometalloporphyrins (metal = Fe, Cr, Mn), 3759

Aromatisation
1,2–dihydro–6–nitro–2,3–dipiperidinoquinoxaline, by air, 1311
1,3–cyclohexanediones to resorcinol mono–Me ethers by I_2/MeOH, 3441
1,4–dihydropyridines, by oxygen, 2033
1–benzyl–1,2–dihydroisoquinolines, with side–chain loss, 1775
1–ethynyl–3,4–dihydro–6–(3–oxo–1–butynyl)fulvene , radical cyclization to indane derivs, 4863
4–cyano–4–methylcyclohexa–2,5–dienone, under acid conditions, 1921
6,6–difluorobicyclo[3.1.0]hex–2–ene to fluorobenzene, 3933
cyclic thia–enediynes, – by bases to 3,4–dihydro–2–benzothiopyrans, 391
dopachrome, mech of rearr to 5,6–dihydroxyindole, 3849
fused 1,4–dihydropyridines, by MnO_2, 1307
steroidal isoxazolidines, ring–A–aromatic 1–hydroxy—, 7605

Aromaticity
cycloundeceno[*a*]azulenium(+), 7,12–methano–, 18
estimate of – of an oxa[17]annulene, by nmr, 6319
fullerenes, valence bond explanation of stability, 3731
heterocycles, thermochemical Dewar–Breslow definition of –, application, 3949
tetra(bicyclo[2.2.2]octeno)–fused cyclooctatetraene dianion, pmr, cmr, 6767

Arsenic and compds
allylic arsonium salts, PT reaction with aldehydes to vinyl oxiranes, 3999
arsonium ylid in Wittig reaction, 1165
methylenechloroarsine compds, cycloaddn of diazo–esters, synth 1,2,4–diazarsoles, arsiranes, 2755
triphenylarsine – silyloxy triflate addn to αβ–enals, addn to aldehydes forming furans, 2913
triphenylarsine, catalyst ligand in aryl–tin couplings to vinyl triflates, 4243

Aryl halides
alkoxycarbonylation using HCO_2R/NaOR/$PdCl_2(PPh_3)_2$, 4705
aryl methyl ketones from, by Heck reaction with vinyl butyl ether, 1753
biaryl formation in Bu_3SnH radical cyclization 1–(*o*–bromobenzyl)–tetrahydroisoquinolines to aporphines, 529
bromo–cyclophanes, Pd–catalysed olefination, 2367
bromobenzene deriv, coupling to benzeneboronic acid in phenanthrene synth, 4879
bromotoluenes, sonochemical coupling by Li, radical route, orientation of substits in products, 7133
iodide replacement by CF_3 using CF_3SiEt_3/Cu(I)/F^-, 91
iodides for catalytic arylation of allyl alcohols to styryl alcohols and to β–arylethyl aldehydes and ketones, 2121
iodides, Pd–catalysed arylboronic acid coupling in biflavone synth, 2229
$S_{RN}1$ by pyrrole anions, electrochemically induced, 6121

Arylation
allyl alcohols to styryl alcohols and to β–arylethyl aldehydes and ketones by $Pd(OAc)_2$, 2121

Arynes
2–phenyl–3,4–quinolyne, rearr to indeno–indole, 801
benzyne cycloaddn to 3,4–dihydro–1–naphthyl isocyanate, 5757
dehalogenation and cyclization to C=O groups using $Bu_3Sn.SiMe_3/R_4NX$, 6139
generation from *o*–haloaryl triflates and BuLi, cycloaddn to furans, 6735
in 3–acyl–3–alkyloxindole synth, 6993

Asymmetric induction
chiral amino–diether for complexation to organo–Li in addn to CH=N bonds, 3095
conjugate addn diethylzinc to enones in presence chiral catalyst, 95
cyclization allylic trimethylsilyl aldehydo–esters to fused α–methylene–γ–butyrolactones, 387
enantiosel addn of chiral alkyl amidocuprates to cyclic enones, 3973
Felkin–Ahn *vs* Cram model for enolate addn to αβ–epoxyaldehydes, 5345
hydrogenation of itaconic acids using chiral Rh complexes, 3671
hydroxy–β–lactam synth, hydroxy–ketene glycal deriv, 1039
N–alkyl–2,3–bis(bulky–silyloxy)succinimides, reaction with alkyl, aralkyl Grignards, 3401
reduction by *N*–dodecyl–*N*–methylephedrenium borohydride on montmorillonite, 1247

use of D–pantolactone in asymm Diels–Alder reaction, 1613
see also Enantiocontrol, Enantioselectivity

Asymmetric reactions
asymmetric (–)–laudanosine synth, (–)–β–phenylmenthol chiral auxiliary, 2995
chiral synth cyanocyclopropanes, 939
Corey lactone synth by Diels–Alder using *O*–acryloyl D–pantolactone, 4557
Diels–Alder reactions of 3–acetoxy–2*H*–pyran–2–one with dissymmetric vinyl ethers, 3147, corrigendum, 6044
synth benzoquinolizidine analogs of podophyllotoxin, 2489
synth C(11)–C(17) fragment tylonolide, 267
synth C–5 branched aza–sugars, 3169
synth piperidine–2–spiro–cyclohexane derivs, 2485

Atropisomerism
dibenzo[*d,f*]azonine deriv by photorearr of *N*–carbomethoxynorcodeinone, chiral stability, 7499
inter–ring bridged triarylboranes and congeners, nmr, stereochem, x–ray, cd, resolution, 6363
pyridine, 2–(*o*–methoxy–, *o*–phenoxy–phenyl, 2–methoxy–1–naphthyl)–3–(α–methoxyethyl–, –benzyl)–, synth, rotational barriers, 2943

Autoxidation
β–carotene, exploratory study of, 4203

Aza compds
1–aza–1,3–dienes, *N*–trimethylsilylmethyl–, rearrangement to *N*–trimethylsilyl–2–pyrrolines, 5093
1–aza–pentadienyl anions, reaction with Michael acceptors, 4683
1–azahexa–1,3,5–trienes, 1–methoxycarbonyl–, photochem formation, pmr, cyclization, 6895
3–aza–1–thiabutadienes, cycloaddns, 2225
3–silyloxy–2–aza–1,3–butadienes, cycloaddn to chiral nitrosocarbonyl imines, 5349
5,6–dihydropyrimidin–4–ones, by cycloaddn of 4–dimethylamino–1,3–diazabutadienes to 2–oxazolin–5–ones, 5151
5–aza— and fused derivs, synth from *N*–vinylphosphinimines and 6–dimethylamino–2–formylfulvene, 6727
anthraquinones, 1,5–, 1,8–, and 1,6–di–, 1307
N–acyl–1–azabutadienes, intramol cycloaddn to double bonds, 4371

Azepines
cyclopenta—, and with further fusion, 6727

Azetidines
3–acetic acids, rearr to pyrrolidin–2–ones, 4799
1–benzhydryl–3–hydroxy—, synth, 6935
3–carboxylic acids, from 3–chloromethyl–2–azetidinones by rearr, 4795
reaction with N_2O_5 with ring–opening, 4985

Azetidinones
3–chloromethyl–2—, rearr to azetidine–3–carboxylic acids, 4795
3–fluoro–2—, stereosel synth by ketene cycloaddn, 5461
3–hydroxy–4–phenyl–2—, asymm synth of for 3–phenylisoserine, 3151
3–phthalimido–2—, conversion into corresp *o*–pyrrolidinocarbonylbenzamides, 3301
4–(allyloxycarbonylthioacetyl)thio–3–(1–t–butyldimethylsilyloxy)ethyl)–2—, intermed to 1,2,4–thiazolo–, 1,2,4–thiazino–fused β–lactams, 3771
4–acetoxy–2—, rearr of 1–(crotylsilyl)–,2143, synth from 2— by AcOOH oxidation, 2145
4–silylmethyl–2—, by CSI cycloaddn to allylsilanes, 2265
4–sulfinyl –, 4–Nu^-–substituted – with silylated *S*–, *O*–, and *N*–nucleophiles, 2375
α–hydroxyethyl–, asymmetric synth, 2577
α–silylmethylene–β–lactams, by Rh–catalysed silylcarbonylation of propargylamine derivs, 7431
α–vinylidene—, synth by Pd–catalysed carbonylation of 4–amino–2–alkynyl carbonates, 7683
aldol reactions of *N,O*–dimethylacetamide Li enolate to α–oxo– and β–formyl β–lactams, 2525
β–lactams from imines using acids and Mukaiyama reagent, 581
cis–3–subst 4–formylazetidin–2–one synth, 803
diastereosel addn ester enolates to chiral acetals of α–keto–imines, 7563
enantio–, diastereo–selective synth 2— using chiral boron enolate of *S*–t–butyl thiopropionate, 5287
enzymic acylation of 2–amino–β–lactam deriv, 1621
from β–aminoacids by cyclodehydration with $MsCl/NaHCO_3$, 2299
fused α–ethylidene—, ozonolysis, oxazolidine–2,5–diones from, 2065
hydroxy–β–lactam synth, hydroxy–ketene glycal deriv in, 1039
oxidation by peracetic acid of 2–azetidinones to 4–acetoxy–, $OsCl_3$–catalysed, 2145
Ru–catalysed oxidation of azetidin–2–ones to 4–acyloxy–derivs, 5991
spiro–4–azetidin–2–ones by Bu_3SnH cyclization *N*–vinylic α–chloroacetamides, 1725
stereosel synth of chiral azetidin–2–one 1–acetic acids, Me ester, 5187
synth and α–oxy–substit removal of chiral α–acetoxy– and α–benzyloxy– β–(1–oxyalkyl) β–lactams, 3105
synth by radical cyclization allylaminocarbonylcobalt salophen, thienamycin precursor, 259
synth by radical cyclization *N*–(α–bromoacyl) enamines, 2335
synth of 4–(α–methylallyl)–2— deriv, by rearr of 4–acetoxy–1–((*Z*)–crotyldimethylsilyl)–2—, 2143
synth precursors to PS–5, a pyrroleno–azetidin–2–one, 7553
thiazolino–azetidones, intermediates in synth of 2–exomethylene penams, 7445

Azides
2,4,6–triisopropylbenzenesulfonyl –, amination of amide enolate by, 2663
bromobenzenesulfonyl –, ultrasonic acceleration of addn–rearr with enol ethers, 2457
oxidative azidation of arenes, methoxyarenes, by $PhI(OCOCF_3)_2/Me_3SiN_3$, 4321
perfluoro–*p*–phenoxy–, attachment to $PGF_{2\alpha}$ as photoaffinity probe, 1553
sugar–derived –, synth of pyrrolizidine alkaloids *via*, 5513, 5517

Azido compds
1,3–propanedithiol – of α–azido–*o*–aroylanilides, 1,4–benzodiazepin–2–one synth, 5493
1–trimethylsilyl 1–α–hydroxyalkyl oxiranes, azidolysis, 679
2,2′–diazidobenzylidene aniline, Staudinger reaction and cyclization, 2979

3′–*O*–anthraniloyl–8–azidoadenosine 5′–mono–, –di–, –tri–phosphate, 4699
4–azidobenzyl bromide, for protection of OH; removal by redox methods, 3557
α–azido–*o*–aroylanilides, 1,3–propanedithiol reduction, 1,4–benzodiazepin–2–one synth, 5493
α–azidocinnamates, intramol reactions with 1,3–dienes, bridged isoquinolines, 1409
azido–nucleosides, reduction to amino— by Bu_3SnH/AIBN, 6293
β–azido–amines, stereosel synth *via N,N*–dichlorocarbamate addn to olefins, 4045
by azide ion substitutions catalysed by sec amines, 663
diazido compds, bistriazenes by reaction with MeLi, 183
ethyl α,*o*–diazidocinnamate, 1,3–benzodiazepines and indoles from, *via* iminophosphoranes, 4401
intramol cycloaddn to double bond in pyrrolenine synth, 6469
oxetane nucleosides with azido and fluoro substituents, 1675
reduction, in deprotection sequence involving azidomethyloxybenzyloxycarbonylamines, 351

Aziridines
1–amino–*trans*–2,3–diphenyl–, hydrazones from and $LiAlH_4$ redn to hydrocarbons, 1691
1–benzhydryl–2–(mesyloxymethyl)–, synth, 6935
2,3–di(benzyloxymethyl)–, (*R,R*) and (*S,S*), C_2–chiral isomers, alkylation of Li enolate of *N*–propionyl deriv, 2533
2–phenyl–1–tosyl– anion, intramolecular nucleophilic aromatic addn; 2,2–diaryl–, 1299
catalytic aziridination using chiral Cu(I) catalyst, 7373
N–(alkynylmethylenimino)–, alkynylcarbenes from, 983
N–benzyloxycarbonyl—2–carboxylic ester, serine ether derivs from, 1283
N–Boc, carbohydrate–derived, regiospecific ring–opening by $PhMgBr.CuBr.Me_2S$, 1897
N–tosyl–, ring–opening by aminoacid, 1417
N–unsubstituted alkoxycarbonyl–, from silyl imines and α–haloester enolates, 121
reaction with N_2O_5 with ring–opening, 4985

Azo and azoxy compds
1–aryl–3,3–dialkyltriazenes, heating with methyl iodide to form aryl iodides, 2465
2,3–diazabicyclo[2.2.1]hept–2–ene, sensitized photolysis, trapping diradical, 1405
2,3–diazabicyclo[2.2.1]heptenes, laser photolysis, 2211
2–arylazo–2–nitropropanes, synth, 5449
7–isopropylidene–2,3–diazabicyclohept–2–ene, thermolysis in presence of spin–trap, 3711
α–arylazobornyl hydroperoxide, steric effect on decomposition to dioxygen and camphor arylhydrazone, 4955
αβ–unsaturated azoxy compounds, synth, geometrical isomerization at N=N, 1067
arylazo–alkenes, sugar–derived, cycloaddn to quinones, azodicarboxylic ester, 2513
arylazocyanides, cycloaddn to cyclopentadiene, rearrangement, 907
azodicarbonyl compounds, intramol cycloaddn to dienes, 133
azodicarboxylic ester, [4+2]–cycloaddn to 1–alkylglucal double bond, 5021
azodiformic acid, mono–amide mono–ester, synth, reactions with organometallics, 3079
β–arylazo–α–cyanoacraldimines, intermeds in rearr of azido–pyrazoles, 3565
bistriazenes, bifunctional alkylating agents, 183
methyl azoxy–alkane, by methylation of alkyl diazotate; *C*–hydroxyalkylation, 1067

Azulenes
4–dimethylamino–, by reductive rearr of 6–dimethylamino–6–(2–furyl)fulvene, 3499
5–azaazulenes and fused derivs, synth from *N*–vinylphosphinimines and 6–dimethylamino–2–formylfulvene, 6727
fused to bridged [11]annulene cation, 655
hydroazulenones and –diones, synth from silyloxy–bicyclo[3.3.0]octene – ketene cycloadducts, 6011
mediterraneols E1, E2, azulenoid diterpenoids, 2477
mediterraneols E1, E2, 6–hydroxy— diterpenoids, 2477
mono–, di–, tri–azulenylmethyl cations, 773

Basicity
superbases, RLi–ROK for lithiation of benzene, alkylbenzenes, 1483

Benzimidazoles
1,3–dibenzoyl–2–cyano–2,3–dihydro–1*H*—, synth, x–ray, reactions, 2997
2–hydroxymethyl–, Zn complexes with esterolytic activity in micelles, 193
bridged 2–amino–, by rearrangement *N*–cyano–*N′*–arylhydrazines, 907
formation by electrooxidation of *N*–(*p*–methoxyphenyl)–*N′*–aryl trifluoroacetamidine, 5981
pyrrolo[1,2–*a*]benzimidazoles, dihydro–, 2499
trans–hexahydro—2–one, 1,3–dipropionyl–, hydroxyalkylation *via* boron enolate, bifunctional chiral auxiliary, 4787

Benzobarrelenes
acetyl dibenzobarrelene, synth *via* methyl β–phenylsulfonylvinyl ketone, 5405

Benzocyclobutenes
1,2–dihydro–, microbial hydroxylation, 3887
1,2–dihydro–1–aryl–1–hydroxy—, synth *via* aryl α–lithioarylmethyl ketones, 2171
1,2–dihydro–2–oxy–2–vinyl–, rearr to α–tetralones, 819
1,2–dihydro–4,5–dimethoxy–, opening and cycloaddn to 1,4–diacetoxyanthracene, 3183
benzocyclobuten–1–ols, 1,2–dihydro–2–aryl–, and Me ethers, synth by photocyclization *o*–benzylbenzophenones, 263
intramol Diels–Alder reactions of quinodimethanes from, diastereoselection, 5469

Benzodioxins
2,3–dimethyl–1,4–, epoxidation by dimethyldioxirane, 1295

Benzofurans
2,3–diaryl—, synth, electrochem oxidation, 3,3–diarylbenzofuran–2–ones, 4913
2,3–dihydro–, from allyl *o*–bromophenyl ethers, SmI_2–induced cyclization, 1737

2-(4′-hydroxy-3′-methoxyphenyl)-5-(3-hydroxypropyl)-7-methoxybenzofuran-3-carbaldehyde, from *Salvia miltiorrhiza*, 2061
2-methyl-3-trimethylsilyloxy-, reaction with dimethyldioxirane, 1295
3-hydroxy-1,2-dihydro-, by photocyclization *o*-isopropoxy-benzophenone, 895
5,6,7,7a-tetrahydro-3-methylbenzofuran-2(4*H*)-one , synth (-)-*cis*- isomer (mint lactone), 5191
5-(1-propenyl)-2-(2,4,6-trimethoxyphenyl)—, nor-neolignan, synth, 3835
7-hydroxy-2-mercaptomethyl-1,2-dihydro-, acyl transfer rates, thiol capture strategy for peptide synth using, 3009
α-lithio—, alkyllithium addn with C-O bond cleavage, (*E*)-*o*-alkenylphenols, 5903
diphenylisobenzofuran, cycloaddn to cyclopropabenzene, radical mech, 593
from α-t-butyl-β,β-dimesitylvinyl alcohol by reaction with $SOCl_2$, 6391
propargyl Claisen rearr, benzofuran or chromene from, 811
rotenone-isorotenone rearr in deuterated acid, mech, 7337
synth by reductive cyclization of *o*-acyloxy-benzophenones, 6695
trans-3a,7a-dihydrobenzofuran-2,7(3*H*,4*H*)-dione, 4-dichloromethyl-4-methyl-, synth, 4577

Benzopyrans

see Chromanes, Chromenes, etc.

Benzopyranones

see Coumarins, Chromones

Benzoquinones

pent-4-enyl-*ortho*— mono-dimethylacetal, intramol cycloaddn and photo-rearr to triquinanes, 6583

Benzothiazoles, benzothiazolones

2-methylbenzothiazole, benzothiazol-2-one, benzothiazole-2-thione, 6-hydroxy-3-methyl benzothiazol-2-one, from marine bacterium, 4847

Benzothiophenes

2,3-diethyl-7-methoxy—, synth by Zr methodology, 5465

Benzotriazoles

1,3-bis(*N*-benzotriazolyl)alkyl t-amines, elimination by NaH to dienamines, 3597
Mannich bases of - in synth t-amines, 4247

Betaines, mesomeric

heterocyclic, 9-oxidopyrido[1,2-*a*]pyridimidinium, 4307
reverse phase microemulsion formation of vinylphosphonium -, 2615

Bicyclic alicyclic compds

(*E*)-5-alkylidene-2-norbornenes, synth, 7033
1,4,4-trimethylbicyclo[3.2.0]hept-2-en-7-ols, from carene, 1107
1,6,6-trimethylenebicyclo[3.3.0]oct-3-en-2-one, enantiosel synth from (+)-Δ^3-carene, 1107
1-acetonylbicyclo[3.1.0]hexane and derivs, synth from enynes and adsorbed carbene complexes, 5895
1-arylbicyclo[n.1.0]alkanes, synth by cyclization terminal-alkenyl α-methylseleno-benzyl lithium, 417
1-methylbicyclo[4.2.0]oct-3-en-5-one, stereoselectivity of organocuprate addn, 447
2,10,10-trimethylbicyclo[6.3.0]undec-1-en-6-one, synth (±)-pentalenone precursor, 5753
2,3-epoxynorbornanes, effect of polar substituents on RuO_4 oxidation, 1169
2-acetylbicyclo-[2.2.1]hexadienes, -[2.2.2]octadienes, synth, 5405
2-methylenebicyclo[3.3.0]octanes, *trans*-fused, by intramol Pd-catalysed cycloaddn methylenecyclopropane to double bond, 1103
5,5-dimethyl-2-oxobicyclo[3.1.1]hept-3-ene-3-car boxylic ester from β-pinene, 2005
7-benzyloxybicyclo[2.2.1]hept-5-en-2-one, microbial oxidation and reduction, 499
benzobicyclo[3.1.0]hex-2-ene, photochem methanol addns, 173
bicyclo-[5.3.0]decan-1-ones, -[6.3.0]undecan-1-ones, synth by radical ring expansions, 1591
bicyclopentane and derivs, formation, 2211
bicyclo[2.2.2]oct-2-en-5-one deriv, synth, photochem rearr, 4011
bicyclo[2.2.2]octanones, bicyclo[3.3.1]nonenones, bicyclo[3.3.0]octenones, from Michael addns of cyclic β-methoxy-αβ-enones, 4691
bicyclo[3.1.0]hexan-3-one, 2,4-dibenzylidene-6-methyl-, thermal epimerisation, 5869
bicyclo[3.1.1]hept-3-en-2-one, 4-ethyl-6,6-dimethyl-3-phenylsulfonyl-, regio-and diastereosel alkylation α on ethyl group, 7439
bicyclo[3.2.1]oct-2-en-7-ones, 4-oxobicyclo[4.3.1]deca-2,8-diene-2,3-dicarboxylates, synth *via* iron complexes from α-pinene, 6101
bicyclo[3.2.1]octane framework, synth (±)-helminthosporal, 6741
bicyclo[3.3.0]oct-1-en-3-one, 7-hydroxy-, enantiosel sytheses *via* allylboration and Pauson-Khand reactions, 6285
bicyclo[3.3.0]octan-3-ones, 7-acylmethyl-, rearr to bicyclo[3.2.1]oct-2-enes by BF_3/glycol, 515
bicyclo[3.3.0]octan-3-one synth by Pd insertions in carbacyclin synth, 5911
bicyclo[3.3.0]octane-2,2-dicarboxylate esters, 8-aryl-, by double Pd-catalysed cyclization, 1641
bicyclo[4.1.0]heptan-2-ones, cyclopropane cleavage with SmI_2, radical and enolate capture, 6211
bicyclo[4.2.2]decane, 1-hydroxy-*anti*-8-acetyl-, synth from 4-(3-oxobutyl)-cyclooctanone, 6805
bicyclo[5.3.0]-dec-9-en-2-one, and homologs, synth, 7361
ethyl bicyclo[3.3.0]octa-2,6-diene-2-carboxylates from 1-subst 1-vinyloxycyclopent-2-ene-4-malonic esters, 3399
menthyl bicyclo[2.2.1]hept-6-ene-2-carboxylate, 2303
methyl pentalene-1-carboxylate, 3-propyl-2,4,5,6-tetrahydro-, synth by vinylcyclopropane rearr, 2871
nitro-bicyclo[3.n.1]alkanone systems, synth from 2-nitro-3-pivaloyloxypropene and cyclic β-enaminoesters, 2319
octalones, allylic hydroxylation by fungi, 647, 651
perhydropentalenes (bicyclo[3.3.0]octanes), bridgehead phenyl, synth by tandem cyclizations, 417

Bicyclic heterocyclic compds

(+)-7-oxabicyclo[2.2.1]hept-5-en-2-one in C-disaccharide synth, 1429
(-)-*endo*-1,3-dimethyl-2,9-dioxabicyclo[3.3.1]non ane, beetle pheromone synth, 2223
1,2,4-triazolo[4,3-*a*]pyrroles, 1,2,4-oxadiazolo[4,3-*a*]pyrroles, dihydro-, synth by cycloaddns to 2*H*-pyrroles, 3709

1,2–benzisothiazole 1,1–dioxide, 2–fluoro–2,3–dihydro–3,3–dimethyl–, selective fluorinating agent, 1779
1,2–benzisothiazole 1,1–dioxide, 3–methyl–, reaction with lactam enolate, 2679
1,3–benzodiazepines, synth *via* iminophosphoranes from ethyl α,*o*–diazidocinnamate, 4401
1,4–benzodiazepin–2–ones, 1,3–propanedithiol reduction of α–azido–*o*–aroylanilides, 5493
1,4–diazabicyclo[2.2.2]octane, (+)–*trans*–2,3–diphenyl–, synth, 4853
1,4–diazabicyclo[2.2.2]octane (dabco) in Baylis–Hillman reaction, mechanism, 5611
1,5–benzodiazepines, di– and tetrahydro–, 1,6–benzodiazocines, tetrahydro–, cyclization to dihydropyrrolo[1,2–*a*]benzimidazoles, 2499
1–aza–2,4–dithiabicyclo[3.2.0]heptan–7–ones, 3–carboxymethylene–6–(1–hydroxyethyl)–, β–lactams containing sulfenamide groups, 3771
1–aza–4–oxabicyclo[3.3.1]nonan–6–one, synth, oxime cleavage with reduction, 2281
1*H*–thiopyrano[4,3–*c*]pyridines, 2,4,5,6–tetrahydro–, 1*H*–thiopyrano[4,3–*c*]pyridin–4(3*H*)–ones, 5,6,7,8–tetrahydro–, 2883
2,1–benzisothiazoles, 3–azido–, thermolysis, 2–cyano–thionitrosobenzene from, 7459
2,3–diazabicyclo[2.2.1]hept–2–ene, sensitized photolysis, trapping diradical, 1405
2,6–dioxabicyclo[3.2.0]heptane–7–carboxylic esters, bromination, azido–debromination, 3569
2,7–dioxabicyclo[3.2.1]octane analog of thromboxane A2, 4599
2–aza–6–thiabicyclo[2.2.2]octane–3–thione, 1–acylamino–5,8–diphenyl–, 2529
2–azabicyclo[2.2.1]hept–5–ene system, dichloroketene addn, diastereosel synth 4,4–dichloro–1,2,4,4a,7,7a–hexahydro–2–(1–pheny lmethyl)cyclopenta[*c*]pyridin–3–one, 7233
2–azabicyclo[3.1.0]hex–3–ene, 2–methoxycarbonyl–, photorearr to methyl penta–2,4–dien–1–ylidenecarbamate isomers, and 1–methoxycarbonyl–1,2–dihydropyridine, 6895
2–azabicyclo[3.3.1]non–6–enes, synth by Heck cyclization, 1695
2–azanorbornadiene, by detosylation of 3–tosyl analogue, 6957
2–oxabicyclo[2.2.2]oct–5–en–2–ones, 4–acetoxy–8–alkoxy–, 3147, corrigendum, 6044
2–oxabicyclo[2.2.2]oct–5–en–3–ones, synth, 5295
2–oxabicyclo[3.3.1]nonan–3–ones, 9–methylene–, and analogs, synth, 6159
2*H*–pyrano–[3,2–*b*]– and [2,3–*c*]–pyridines, synth *via* Wittig reaction, 627
3,4–dihydro–2–benzothiopyrans, synth by aromatization cyclic thia–enediyne, 391
3,7–dioxa–2–azabicyclo[3.3.0]oct–1–enes, 3–oxa–7–thia–2–azabicyclo[3.3.0]oct–1–enes, 3,8–dioxa–9–azabicyclo[4.3.0]non–9–enes, 4259
3–azabicyclo[3.3.0]oct–5–en–7–ones,synth by Pauson–Khand reaction, 2137
3–azabicyclo[5.2.2]undecan–8–one, 7–ethoxycarbonyl–1,3–dimethyl–, photocyclization product, 7151
3–t–butyl–2,3–dihydro–1,2–benzisothiazole 1,1–dioxide, synth, resolution, use as chiral auxiliary, 4893
5–acyl–7–oxabicyclo[2.2.1]heptan–2–*endo*–ols, synth by intramol radical addn, 3491
6–azabicyclo[3.2.2]nona–3,6,8–triene–7–carboxylic esters, 8,9–benzo–fused, 1409
7–methylenebicyclo[4.1.0]heptan–3–ones, tropones and π–allyl–Pd compds from Pd–catalysed rearr, 4089
7–oxabicyclo[2.2.1]heptan–2–one derivs, reaction with diazomethane, 1637
7–oxabicyclo[2.2.1]hept–2–one deriv, elaboration to aza–sugars, 3169
8–oxabicyclo[3.2.1]oct–6–en–3–ol, 7–oxabicyclo[2.2.1]hept–2–enes, reductive ring–opening by organo–Li, –Mg reagents, 4827
8a–(*S*)–oxazolo[3,4–*a*]pyridin–3–one, 1,7,8,8a–tetrahydro–, synth from L–lysine, use as chiral template, 6723
9–oxidopyrido[1,2–*a*]pyridimidinium betaines, 4307
antibacterial 1,8–naphthyridin–4–ones containing 3,6–diazabicyclo[3.2.0]heptane system, 1565
aryl radical 6– and 7–*exo* cyclizations, synth benzo–fused N–heterocycles, 2829
benzothiazoles, 2–(alkylsulfonyl)–, olefin synth using, 1175
benzothiazoles, fusion of quinolinone ring, 39
benzotrithiole deriv, lissoclinotoxin A, 911
cinnoline–5,8–dione, 1–aryl–1,4–dihydro–4–(tetraacetoxybutyl)–, 2513
ethyl 1–azabicyclo[2.2.1]heptane–3–carboxylates, stereosel syntheses, 1241
ethyl 1–azabicyclo[2.2.1]heptane–4–carboxylate, synth, 1241
furo[2,3–*c*]pyridine *N*–oxides, furfuraldoxime in Diels–Alder reactions, 3199
furo[3,4–*d*]isoxazole, oxepino[3,2–*d*]isoxazole systems, 1161
halitudinal, a natural diterpenoid cyclopenta[*c*]pyran–7–aldehyde, 169
hydroxybenzotriazole phosphates, oligodeoxy–synth on PEG support using, 3251
imidazo[4,5–*b*]pyridines, synth, 6503
imidazo[4,5–*e*]–1,2–thiazin–4(5*H*)–one, 5–methyl–, neamphine, isol, struct, 2707
indazoles from *o*–azidobenzaldehyde and Ph_3P, 2521, corrigendum, 4056
indazoles, 2–(triphenylphosphinimino)–3–(N–subst), 2979
isoxazolo[2,3–*b*][1,2]oxazine–2–carbonitrile, 3a–alkenyl–6–ethoxy–hexahydro–, 2517
isoxazolo[3,4–*d*]pyridazin–7(6*H*)–ones, 3– and 4–phenyl–6–methyl–, 3229
oxazolo[3,2–*a*]pyridine–5–carbonitrile, 3–phenylperhydro–, chiral synthon for piperidine–2–spiro–cyclohexane derivs, 2485, for benzoquinolizidines, 2489
pyrazolo[3,4–*d*]pyrimidin–6–ones, 1–aryl–4–amino–1,5–dihydro–, isoguanine analogues, 6787
pyrimido[1,2–*a*]pyrimidines, hexahydro–, chiral abiotic receptors of nucleotides, 1827
pyrrolo[1,2–*c*]oxazol–5–one, 6,7,7a,8–tetrahydro–3–phenyl–, uses, 1379
pyrrolo[1,2–*c*]oxazol–5–one, 3–phenyltetrahydro–, 6–alkylation, 5749
pyrrolo[1,2–*c*]oxazoles, 2–acylperhydro–, addn of organometallics to, 2919
pyrrolo[2,3–*d*]pyrimidine–2,4–diones, by photolysis triazolyluracils, 323
reduced pyrido[1,2–*b*]pyridazin–2–ones, by intramol [4+2] cycloaddn unsat acylhydrazones, 125
thieno[3,4–*c*]pyrazole 5,5–dioxides, 4,6–dihydro–, synth, generation and trapping of *o*–dimethylene–pyrazoles, 7609

triazolo[4,5-*d*]pyrimidine, 3-(*m*-chlorophenyl)-7-cyclopentylamino-5-methylt hio-, restricted rotation, crystal structure, 3583
[1,2,3]triazolo[1,5-*a*]pyridinium ylids with DMAD, 2*H*-pyrrol-2-yl-pyrazolo[1,5-*a*]pyridines, 4977

Biogenesis
suggested pathway to chaetoglobosin A, isol of precursors, 4533

Biologically active compds
(±)-*erythro*-, (±)-*threo*-2-vinylcitric acids, ATP-citrate lyase inhibition, 4587
25-phospha-analogs of vitamin D_3, 4643
adenosine A_1 receptor ligand, 2-(4′-hydroxy-3′-methoxyphenyl)-5-(3-hydroxypropyl)-7-methoxybenzofuran-3-carbaldehyde from *Salvia miltiorrhiza*, 2061
analog of LTD_4 with 6-(6-mercaptohex-3-enoic acid) group, agonist of LTD_4 receptors, 2613
antimalarials based on 1,2,4-trioxane system, 4235
antimicrobial, antifungal, lissoclinotoxin A, 911
antineoplastic, girolline, diastereosel synth, 1419
antiparasitic, paraherquamide, chemical modification of vinyl ether moiety, 2437, substn at oxindole N, 2441
calicheamicin, dna-binding, mode of action, 4635
cell growth inhibitor, glyfoline, acridone alkaloid, 1541
cycloserine derivs of squaric acid, 3767
cytotoxic, eurylene, squalene-type triterpenoid, 1803
etoposide, 1-thioglucose, *S*-oxides, -dioxide analogs, 2849
glycosidation of podophyllum lignans, 1653
iejimalides C, D, antineoplastic macrolides, 797
muricatacin, acetogenin deriv, toxic to shrimps, 1137
neuroexitatory activity of acromelic acid congeners, 2625
phyllanthocin, anti-tumor aglycone, asymm synth, 1613
platelet activating factor antagonists, 2-(3-pyridyl)-thiazolidin-4-ones, 379
potassium channel opener, chromene deriv Ro 31-6930, 811
Streptomyces butyrolactone cell regulators, revised stereochem, 1817
triazole antifungals, synth chiral epoxide precursors, 7545
see also Chemotherapy, Drugs, Hormones, Insecticides, Pharmacologically active compounds, Pheromones, Phytoalexins, Toxins

Biosynthesis
isobutyric, methacrylic acids from L-valine in beetle defensive secretion, 4849

Boron and compds
(4,5-dihydro-2-furyl)-trialkylborates(1-), β-attack of electrophiles and alkyl 1,2-shifts, 6961
(*Z*)-vinyloxyboranes, stereosel hydroboration of acyclic enones, 1229
1,3-dienyl-2-boronic esters, stereo-, regio-sel synth from α-bromoalkenyl boronic esters and alkenyllithiums; protolysis, peroxidolysis, 3655
2,1,3-boradiazolidine, 2-bromo-1,3-bis(3,5-bistrifluoromethylbenzenes ulfonyl)-4,5-diphenyl-, chiral auxiliary in Darzens synth, 2857
4-allylphenols, ω-dimethoxyborylation, 2475
4-isopropoxybenzeneboronic acid coupling to bromobenzene deriv, in phenanthrene synth, 4879
9-(2-trimethylsilylvinyl)-9-BBN, synth, dienophile reactivity, 7365
9-BBN-amide-enolate, generation, reaction with aldehyde, 2453
addn catecholborane to 1-phenyl-1,3-butadiene, with chiral Rh-phosphine catalysts, 3387
aldols from β-oxoboronic esters, 1507
allyl- and crotyl-boronic esters, stereochem of addn to α-hydroxyketones, 1945
allylboronic esters, addn to α-oxo-acids, 4619
amide boron enolates, stereochem of aldol reaction with α-aminoaldehydes, 7287
arylboronic acid couplings, biflavonoid synth, 2229
arylboronic acid, Pd-catalysed coupling to 2-chloro-pyridines, -pyrazines, -pyrimidines, 2273
B-chlorodi(iso-2-ethylapopinocampheyl)borane, chiral reducing agent for slightly bulky ketones, 6691
BF_3-aldehyde complexes, stereoisomerism and reaction with α-alkoxyallyl stannanes, 2867
bis(2,4,6-triisopropylphenyl)borane, monomeric, synth, (low) regiosel in reaction with alkynes, 6239
borane or catecholborane, with chiral oxaborolidine catalyst, for enantiosel reduction of ketones, 6835
boron enolates in [2,3]-Wittig rearr of allyloxyacetates, 4647
boron enolates, chelate to camphor-derived oxazolidone, enantiosel aldol condensations, 5563
boron trifluoride, release of by $LiBF_4$ during catalysis, 1549
boron triiodide-diethylaniline complex for cleavage of lactones to iodocarboxylic acids, esters, 6855
bromodimethylborane for nucleosidation of 3-carboxymethyl-2,3-dideoxyribosides, 3469
catecholborane, addn to 1-phenyl-1,3-butadiene, stereosel, enantiosel, with achiral and chiral Rh-phosphine catalysts, 3387
chiral 1,3,2-diazaborolidine in enantiosel synth β-amino-esters and β-lactams, 5287
chloroborane-dimethylsulfide for cleavage of labile ethereal C-O bonds, 3719
crotylboronate esters, addn to α-ketoacids, 5677
dibutylborane enolate of *N*-crotonoylthiazolidine, condn with acetaldehyde, 2577
dicyclohexyl borane addn to 1-trimethylsilyl pentyne, 43
diphenyl 2-bromoallylboronate, synth, uses, 6749
ethylbis(2,4,6-triisopropylphenyl)borane, hydroborate synth from and catalytic use in carbonyl reduction, 6243
γ-(trimethylsilyl)allylboranes, diastereosel condn with aldehydes, 3029
iodomethylboronic ester, enol ate-complexes, β-carbonylboronic esters from, 1503
Markovnikov vinylboranes, coupling with aryl, vinyl, alkynyl bromides, 2311
menthyloxy-phosphine-borane adducts, one-electron reduction, stereochem, racemization, of $[PhRPBH_3]^-$ M^+, 3371
oxazaborolidine, enantiosel reduction of ketones by, 7175
pinacolone dibutylboron enolate, substituent effects in aldol reactions with substd benzaldehydes, 5239
reduction of benzoic acids by BH_3-Me_2S, formn of R-CH_3 and R-CH_2-SMe_2^+, 2759
sodium tetraphenylborate, phenylation by in tandem Pd-cyclization anion capture, 2545
t-amine α-anions, *N*-BF_3-complexed, condn with aldehydes, 3221
tetraaza-macrocycles, tris-triaminoborane derivs, mono-alkylation, 639

thexylborane, tetrahydroboroles, diastereoselective synth 1,4–diols from, 1479
trialkenyl boranes, B–Zn group transfer, synth allyl alcohols, 2449
tribenzo[*d,g,kl*]borepino[1,2–*a*]borepin, 5,6,10,11–tetrahydro–1,16–dimethyl–, and congeners, synth, stereochem, x–ray, cd, uv, atropisomerism, optical resolution, 6363
triethylborane, diastereocontrol of aldol condensation by, 5521

Bridgehead chemistry
dodecahedryllithium, synth, reactions, 6529
functionalised bridgeheads by reductive alkylation of aromatic ketones, 1929
solvolysis with ring–cleavage of 3–subst 1–bromobicyclo[1.1.1]pentanes, other systems discussed, 5945

Bryostatins
asymm synth of C_1–C_9 and C_{11}–C_{16} fragments, 2821

Cage molecules
1,3–cyclohexadiene ring bispiro–fused to hexacyclic birdcage framework, cycloaddns to, 5935, 5939
13–oxaheptacyclo[8.5.1.$0^{2,9}$.$0^{3,8}$.$0^{3,14}$.$0^{8,12}$.$0^{11,15}$]hexadeca–4,6–diene, by dione mono–tosylhydrazone borohydride reduction, 7115
brexadiene, tricyclo[4.3.0.$0^{3,7}$]nona–4,8–diene, electrophilic addns, rearrangements, 6429
dodecahedranes, phenylseleno–, epoxy–, 1,4–di(dodecahedryl)benzene, 5259
dodecahedryllithium, synth, reactions, 6529
fullerenes, valence bond explanation of stability, 3731
heptacyclo[8.4.0.$0^{2,7}$.$0^{3,5}$.$0^{4,8}$.$0^{9,13}$.$0^{12,14}$]tetradecane (binor S), catalysed oxidation to corresponding tetradecan–6–one, 6263
hexacyclo[9.5.2.$2^{3,9}$.$0^{2,10}$.$0^{4,8}$.$0^{12,16}$]eicosa–6, 13,17,19–tetraene –5,15–dione and –6,14,17,19–tetraene–5,13–dione, synth *via* Cope rearrangements, 6351
homo–twistanes and –isotwistanes from *o*–(ω–alkenyl–)phenols, 4439
pentacyclo[5.3.0.$0^{2,6}$.$0^{3,9}$.$0^{4,8}$]decane, perchloro– (Mirex), dechlorination, 2727
seco–pentaprismanediones, 1,3–cyclopent–4–enediyl bridged analogs, 4989
seco–pentaprismanedione derivs with fused cycloolefin groups, 6399, 6403
tetra–t–butyltetrahedrane, by photolysis cyclopropenyldiazomethane deriv, 57
tetrathiaadamantane, tetra(alkylthio)–, 4679

Calixarenes
1,2–di–*O*–(2–pyridylmethyl–)3,4–di–carboxymethyl–, –(2–quinolinylmethyl)–calix[4]arenes, in chiral partial cone conformation, pmr, CD, 7747
1,2–dialkylcalix[4]arenes, conformation, 2675
calix[4]arene diquinone, and bis–deoxycalix[4]arene synth, 1909
calix[4]arene, unsubstituted, synth, crystal structure, conformation by MMX, 5655
calix[6]arenes, molecular capsule of two mols joined by CH_2SCH_2 groups, trapped DMF, 5111
dihydroxycalix[4]arenes, solution conformation, inversion barrier, 5155
indoaniline–calix[4]arenes, sodium–selective chromo–ionophore, 7419
octahomotetraoxa–[4]–, anhydro–tetramer of 4–t–butyl–2,6–di(hydroxymethyl)phenol, 1879
water–soluble, silvanols, calix[4]arene incorporating arborol units, synth, x–ray, electron micrograph, 1133

Carbacyclins
carbacyclin synth by Pd–promoted tandem alkene insertion, 5911

Carbamates
dienol –, Ru–catalysed synth from enynes, R_2NH and CO_2, 7409
N,N–dichloro—, stereosel addn to olefins, formn of aziridines, synth β–azido–amines, 4045
O–(2,3–butadienyl) –, intramol Ag^+–catalysed addn of N–H group, 4–vinyl–2–oxazolidinone synth, 6359
sterically hindered α–methylstyrene, 871

Carbanions
2–methyl–1–silylallyl –, regioselective alkylation, 2879
carbamoyl–lithium, generation and reaction with sulfur, 6867
kinetic acidity of 1–protons of 1,5–anhydro–4,6–*O*–benzylidene–2,3–dideoxy–3–nitro–D–hex–2–enitol, 5809
trichloromethanide, addn to protected serinal, 1031

Carbapenems
asparenomycin analog, synth, 1023

Carbazoles
see Polycyclic heterocyclic compds

Carbenes and carbenoids
3–bromo–3–lithio–2,2,4,4–tetramethylpentane, 2–t–butyl–1,1–dimethylcyclopropane from, 2951
4–isopropylideneadamantan–2–ylidene, intramol cyclization, 1655
α–methoxybenzyloxy–fluoro—, fragmentation to CO, F^-, and $PhCH{=}OMe^+$, 5667
alkynylcarbenes, 1,3–carbenoid shifts, rearrangements, addns, 983
alkynyloxy—, $Mo(CO)_5$ complexes, cyclopropyl–dihydrofurans, –dihydropyrans from, 5223
benzyloxy–cyano–, a push–pull carbene, generation, reactivity, 1925
bis(methoxycarbonyl)–, addn to naphthalene 2,3–bond, thermal Wolff rearrangement, 995
CF_2: in trifluoromethylation of organic halides by $ClCF_2CO_2Me$ with KF/CuI in DMF, 7689
chiral α–diazo–β–ketoester, Rh–catalyzed cyclization to bicyclo[3.1.0]hexane, 2339
chromium tricarbonyl complexes, adsorbed, reactions with enynes, 1–acetonylbicyclo[3.1.0]hexane synth, 5895
cyclopropylidene–, generation, rearrangement, 1961
dichloro–, addn to a 1–phosphabuta–1,2,3–triene, rearr to dimethylene phosphirane, 6879
dichloro–, dibromo–carbene, generation using ultrasound, addn to diaryldiphosphirene, 5965
dihalocarbenes, reactions with tricyclo[4.1.0.$0^{2,7}$]heptane, 4461
dimethoxy– and other –, [4+1]–cycloaddn to 1,2,4,5–tetrazines, isopyrazole synth, 2743
dimethylvinylidenecarbene addn to terpene alcohol double bonds, 5547
formyl –, Rh–catalysed, addn to nitriles, 17
from diazophosphonate esters, Rh–catalysed insertion into H–O bonds, 6947
from thermolysis and matrix irradiation of 1–pyrazoline–3,5–diones, 1961
homoallylic diazoacetate, Cu *N*–t–butyl salicylaldimine catalysed intramol cyclopropanation, 5025

in Rh–catalysed rearr of 6–alkoxy–5–diazodihydrouracil, 3799
intermed proposed in reductive alkylation of α–lithio–epoxides by R–Li, 6305
iodo–, bromo—, stereochem of addn to C_5–C_8, C_{10}, C_{12} cyclo–olefins, 1,3– and 1,5–cyclooctadienes, 6105
iodomethylzinc iodide, multiple CH_2 insertions into alkynyl–Cu reagents, 1855
iron thiocarbene complex, substitution at lithiated C and cyclopentane cyclization, 5753
methoxy— Cr, $Mo(CO)_5$ (Fischer) complexes, reactions with methyl oct–2–en–7–ynoate, propargyl acrylate, allyl propargyl ether, bicyclo[3.1.0]hexanes, cyclopropa[*c*]furans, from, 6311
ortho–diazoalkyl–ester group cyclization, Rh–catalysed, in fused 2–ethoxyfuran synth, 1161
phenyl–trimethylsilyloxy–carbene, generation, trapping, 4443
Rh(II)–catalysed double addn diazoketone to internal and external acetylenic bonds; synth of fused cyclopentadienes, 3755

Carbohydrates

1,2;5,6–di–*O*–isopropylidene–α–D–glucos–3–ulose, template for chiral synth aminoacids, 5801
1,5–anhydro–4,6–*O*–benzylidene–2,3–dideoxy–3–nitro–D–hex–2–enitol, acidity of 1–protons, 5809
1,5–anhydro–D–allitol from epoxide derived from D–mannose, 6089
1–alkenyl–1–deoxy–, synth, anomerization, 2199
2,3–*erythro*–tetro–, pento–, hexo–furanose acetonides, stereochem of organo–Li, –Mg reactions of, 5143
2,4–dideoxyhexoses, synth of all stereoisomers, 3931
2,6–anhydro–2–thio sugar, glycosylation by and desulfurization to branched dideoxy–glycoside, 6155
2–deoxy–1–*O*–silylated sugars as glycosyl donors, 2079
2–deoxy–3–keto–sugar, synth, *C*–alkylation, 1667
2–deoxy–6–formyl–3,6–anhydro–hexono–1,4–lactone dimethyl acetals, from aldehydo–sugars and ethoxycarbonylmethylene triphenylphosphorane, 7473
2–deoxy–D–ribose, chiral synth epoxyalcohols from, 363
2–deoxy–D–ribose, synth of 12(*R*)–hydroxyeicosatetraenoic acid and analogs from, 2515
2–deoxy–γ–ribonolactone, synth, 2525
2–deoxy–ribofuranose *C*–nucleoside analog, deprotection in synth, 3297
2–deoxy–trisaccharides, synth from glycals *via* 2–thiopyridone adducts, 7317
2–hydroxymethyl–4–dioxolanyl as thymine sugar residue, from 1,6–anhydro–D–mannose, 3791
3–azido– and 3–fluoro–2,3–dideoxy–1–thiopentofuranosides, 1809
3–deoxy–2–hex–, –oct–ulosonic acid synth *via* thiazole Wittig reagent, D–*gluco*–KDO, 3247
3–methoxycarbonylmethyl–2,3–dideoxy–ribosides, synth by radical cyclization, 3469
3–*O*–(α–D–glucopyranosyl)–α–L–rhamnopyranosyl phosphate, synth, 6175
4,5–dihydro–2–hydroxymethylene–3–furanone, formerly misidentified xylan pyrolysis product, 3067
4–deoxy–α–L–*threo*–hex–4–enopyranosides, epoxidation, 959, corrigenda, 2692
4–deoxy–L–erythrulose, synth by spinach transketolase, 5085
5–*C*–alkoxy–β–D–galactopyranosides, L–*arabino*–hexos–5–uloses, 959, corrigenda, 2692
6′–*O*–acylation of sucrose by 3–acyl–5–methyl–1,3,4–thiadiazole–2(3*H*)–thione and enzymic hydrol of by–products, 3495
7,8–dideoxy–4–octulose 1–phosphate, by enzyme–catalysed aldol reaction, 3159
α–methyl 2–(1–α–mannopyranosyl)mannoside, glycopeptide fragment, synth, 6637
alkaloid synth using branched sugar lactone, 4483
anhydro–uronic esters, α–bromination, azido–debromination, 3569
arabinose, conversion *via* deoxyheptose into deoxy–1–thiopentosides, 1809
benzyl 2,3–di–*O*–isopropylidene–L–lyxopyranoside, conversion into 2*H*–3,4–dihydropyrrole deriv, 3927
branched sugar degradation; threose, erythrose, and 2–deoxythreose oxetanosides of adenosine, 3531
C–alkenyl pentodialdoses, Rh(I)–catalysed cyclizations to cyclopentanone–, cyclohexanone–fused systems, 3473
carbon–linked disaccharide synth using (+)–7–oxabicyclo[2.2.1]hept–5–en–2–one, radical coupling, 1429
chiral templates in γ–butyrolactone synth, 1667
cyclo–L–rhamnohexaose, synth by stereosel thermal glycosylation, 5551
D–glucoheptonic γ–lactone, synth bengamide side–chain from, 3409
D–glucosamine, chiral template for synths polyhydroxy–cyclohexylamines, –methylcyclopentylamines, 5123, 5363
D–glucose, D–xylose, chiral synth 3–formyloxyaldehydes from, 367
D–isoascorbic acid, lipoxins LXA_4, LXB_4 synth from, 1165
D–lyxose 5–aldehyde, synth of shikimic acid and of phosphonate analogue from, 4111
D–mannitol, 1,2;5,6–diepoxyhexane–3,4–diol derivs and C_2–symmetric 1,4–bis(amido)–2,3–diols from, 5729
D–ribono–γ–lactone, synth (–)–D–*threo*–4,5–dihydroxy–L–valine from, 1979
diacetone glucose, chiral template for sulfoxide synth, diastereomers of DAG–methanesulfinate, 7299
didehydrodideoxy–, from *vic*–dixanthates by Ph_2SiH_2 reduction, 2569
dideoxy–D–glucose, synth 5–amino–4–hydroxy–6–phenylhexanoic acid from, 1897
disaccharides, "inverse conditions" for α–fucosylation using 1–trichloroacetimidates with TMSOTf, 3353
fructopyranose spiro–epoxides, phosphonic acids from, 1237
fucose, 4–hydroxylamino analog, synth, rearr, 1851
galactosyl–disaccharides, enzymic synth with 5–thioglucose, deoxyazaglucose, glucal, glucose and glucosamine derivs as acceptors, 4867
glucose, conversion into cyclohex–4–ene–1,2,3–triol derivs *en route* to (+)–lycoridine, 4525
glycopeptidolipid antigen tetrasaccharide, synth 4–*O*–Me–L–Rha*p*–(1α→4)–2–*O*–Me–L–Fuc*p*–(1α→3)–L–Rha*p*–(1α→2)–6–deoxy–L–Tal*p*, 6191
glycopyranos–1–yl radical, diastereoselection in reductive quenching, 2565
heptono–δ–lactones, synth of polyoxy–cyclopentanes from, 6227
heptonolactones, synth pyrrolizidine alkaloids from, 5517
high–mannose oligosaccharide oxazolines, β–glycosides, neoglycoproteins, 4447

hydroxylamino–sugar fragment of esperamicin, abs configuration, 1851
isopropylidene glyceraldehyde, addn of *N,O*–dimethylacetamide Li enolate, 2525
L–cladinose, 3–*epi*–L–cladinose, synth *via* 2,6–anhydro–2–thio–hexose, 4139
L–glucose, conversion into bengamide side–chain, 5907
L–xylose, synth pyrrolizidine alkaloids from, 5513
methyl α–D–glucopyranoside, synth D–*chiro*– and D–*myo*–inositols *via* cyclitols, 2501
monosaccharide cobaloxime derivs in synth branched and extended sugars, 3639
neuraminic acid analogues lacking C7–C9, synth, 7025
ω–bromo–aldose oxime ethers, radical cyclization using tin hydride, 6437
organo–Sn, –Cu, –Li glycosyls, reaction with epoxides, 769
propenylglucose, Rh–catalysed intramol H–transfer forming propyl gluconolactones, 23
removal TBDMS–oxy protection by transfer hydrogenation, 187
spirocyclopropyl aldopyranoses, synth, 449
stereosel reduction of 2,5;3,4–dianhydroaltritol by $Pd(OH)_2/H_2$, 5273
sugar arylazo–alkenes, cycloaddn to quinones, azodicarboxylic ester, 2513
synth L–arcanose, L–olivomycose, branched sugars, through buta–2,3–dienyltrimethylsilane, 4513
synth trisaccharide of immunogenic lipopolysaccharide, L–α–D–Hep–(1→3)–L–α–D–Hep(1→5)–α–Kdo, *vic*–diol protection as 1,1,3,3–tetraisopropyldisiloxane deriv, 2747
threitol derivs, chiral templates in Diels–Alder reactions, 7043
tri–*O*–acetyl–D–glucal in synth chiral hydroxy–ketene deriv, 1039
trisaccharide core of nephritogenoside, glu*p*–(1β→6)–glu*p*–(1α→6)–glu*p*–(1β→N′)–Asn, synth, 6873
see also Amino sugars, Cyclodextrins, Glycals

Carbonates

3,4–dihydroxyisopentenyl carbonate, Pd(0)–catalyzed hydroxyprenylation by, 2193
alkali metal –, ester hydrolysis by, 327
cyclic and acyclic – from methyl glycosides using thiazolidine–2–thione or 1,3,4–thiadiazoline–2–thione carbonyl derivs, 2751
cyclic thiol–, 10–membered, by sigmatropic [3,3]–rearr, calculations on, 1203
cyclic, by cyclization allyl carbonate O–radicals, 45, 49
di–2–pyridyl –, synth and use for alkoxycarbonylation of amines, 4251
Pd–catalysed decarboxylation of allylic aryl –, synth allyl aryl ethers, 6315
templates, Pd–catalysed stereosel diene, enyne cyclization on glycals, 2161

Carbonium ions

2,5–bis(diarylmethyl)–thiophene, –furan, –selenophene, –1–methylpyrrole dicarbonium ions, Zn reduction to neutral bis(diarylmethylene) heterocycles, 4313
4–methoxybenzyl –, lifetime before solvent capture extended by α–ethoxycarbonyl group, 4255
benzoyl–bis(2,6–difluorophenyl)–, generation, action as electron acceptor, esr, 3187
cumyl –, effect of *ortho*–methyl groups, 871
cyclic allenyl carbocations, Diels–Alder reactions of, 6473

Carbonyl compds

alkylation of by dialkyl zirconocenes promoted by KOBu–t, 5893
diiron enneacarbonyl reaction with αβ–epoxy–olefin, 2651
p–nitrobenzoyloxyethyl–η^5–cyclohexadienyliron tricarbonyl, spiroannelation with arylamines, 1953
vicinal tri– ArCO.CO.COOBu–t, reactions with aldehyde Schoff bases, 6039
see also Aldehydes, Ketones, Esters

Carbonylation

catalytic (Co, Ni) reductive hydroxycarbonylation of *gem*–dibromocyclopropanes, 3349
Co–catalysed – of mesylates and other sulfonates, 3091
gem–dihaloalkanes, Co–catalysed diethylaminocarbonylation, 781
molecular sieves in Pd–, Co–catalysed carbonylation of halides, 4733
Pd–catalysed – of 4–amino–2–alkynyl carbonates, synth α–vinylidene–β–lactams, 7683
Pd–catalysed – of potassium *N*–chloro–arenesulfonamides, synth *N*–arylsulfonyl–ureas, –urethanes, 5833
Pd–catalysed tandem carbonylation and intramol cycloaddn, synth bi– and tri–cyclic 6.5 and 6.6.5 diene carboxylic esters, 7687
quinolin–4–ones from 2–haloanilines using acetylenes/CO/Pd(0), 237
Rh–catalysed silyl— of propargylamine derivs, α–silylmethylene–β–lactams, 7431

Carboxylic acids

(*R*)–α–hydroxy–α–methyl—, enantiosel synth *via* enzymically produced cyanohydrins, 2605
(*Z*)–3–methyl–2–heptenoic acid, beetle pheromone, 129
4–dimethylamino–2,3–dihydroxy–5–methoxypentanoic acid, enantiospecific synth, 6977
9,12,13–trihydroxyoctadeca–10–enoic acid, synth from tri–*O*–acetyl–D–glucal, 4909
α–, β–hydroxy–, chiral synth using organo–zinc chemistry, 3417
α–allyl–α–hydroxy—, from α–ketoacids with allylboronic esters, 4619
α–phenylpropionic acid, from chiral styrene epoxide, 1059
activation of by *N,N,N′,N′*–tetramethyl–*O*–succinimidouronium fluoborate, 1157
alkanoic acids, by Co(II)/Ni(II)/KCN–catalysed hydrocarboxylation of alkynes under PTC, 1769
arylacetic acids, synth by Friedel–Crafts method, 5741
benzoic acids–, reduction by BH_3–Me_2S, formn of R–CH_3 and R–CH_2–SMe_2^+, 2759
benzoic acids, butyl phenyl ketone formn with butyllithium, pathway, 2771
cyclopropane–, from *N*–methoxy–*N*–methylamides, 1275
diphenic acids, unsymm, Ullmann coupling on salicyl alcohol template, 6919
optically active, by enzymic hydrolysis of nitriles, 1343
polyethylene–, synth of Rh(II) salt as cyclopropanation catalyst, 2731
synth (±)–*erythro*–, (±)–*threo*–2–vinylcitric acids, ATP–citrate lyase inhibition, 4587
toluenesulfinylmaleate esters, synth, Diels–Alder reactivity, 947

Carboxylic acids, halogenated

α–methoxy–α–trifluoromethylphenylacetic acid (Mosher's acid), conversion into chloride, 7165

β–bromoacrylic acids, deuterio–acrylic acids from, 963

Carboxylic anhydrides
2,4,6–trichlorobenzoic angelic mixed –, for angelate ester synth, 5077
2–phenylquinoline–3,4–di–, aryne by fvp; indeno[1,2–*b*]indole synth, 801
3–(dicyanomethylene)phthalide, pseudoanhydride, 3449
α–aminoacid *N*–carboxy–anhydrides, from ozonolysis of fused α–ethylidene–β–lactams, 2065
flash pyrolysis of mellitic trianhydride, 4469
mixed –, intramol acylation of α–sulfonyl anion by, 4457
mixed, borohydride reduction in β–aminoalcohol synth, 923
reduction to alcohols by SmI_2/base, 3511
trifluoroacetic, for C=S to C=O conversion, 1195
trifluoroacetic, reaction with aryl-copper reagents, 2003

Carcinogenesis
deoxyadenosine adducts of polycyclic hydrocarbon epoxides, synth, 6073
inhibition of tetradecanoylphorbol acetate tumor promotion by syzygiol, 211

Carotenoids
see Pigments

Catalysis
acid –, olefin isomerization by HCl/BCl_3 in CH_2Cl_2, 1635
aldehyde cyclization to olefin forming cyclohexanones, cyclopentanones, using $[(Ph_3P)_2RhCl]_2$, 3473
alkali metal salt–catalysed ring–opening of epoxides by Li acetylides, 6617
alkylpalladium(II) species in formation of fused small rings from bromo–, alkoxy–dienes, 3855
benzeneseleninic acid, in oxidation sulfides to sulfoxides by PhIO, 793
by $CoCl_2$ of condensation enolisable aldehydes with Me acetoacetate, 1663
carbopalladation of allenes in steroid synth, 915
carbopalladation of allenes, synth dienyl β–ketoesters, malonate esters, 1795
Co(II)/Ni(II)/KCN, hydrocarboxylation of alkynes to alkanoic acids under PTC, 1769
Co–catalysed diethylaminocarbonylation of gem–dihaloalkanes, 781
cobaloxime in photo–coupling of bromo–compounds to styrene, yields as function of reactant concns, 6273
cobaltous chloride, – of anisole acylation by, 5179
$CoCl_2$–catalysed conversion allylic alcohols to rearranged *N*–allyl acetamides, 6965
coupling allylic alcohols to *o*–iodoaniline by Pd –, 569
$Cu(I)/F^-$ – in reaction aryl iodides with CF_3SiEt_3, 91
cyclopentane cyclizations, Pd(0)–catalysed, 1641, 1645
ester hydrolysis by bis(dihydroxyphenyl)imidazolylmethane, 4757
general acid – in trifluoroethanolysis of $EtOSiMe_2Ph$, 307
hydrochlorination of 1,3–butadiene by surfaces, 3461
hydrolysis of acetals by polymerised micellar surfactants, 1881, corrigendum, 4056
hydrolysis of 4–nitrophenyl hexanoate in sugar amide polymer micelles, 1191
hydrosilylation of carbonyls by montmorillonites, hydroxyapatites, calcium oxide, 4741
hydrostannation of alkoxyallenes, by $Pd(PPh_3)_4$, 1187
intramol H–transfer by Rh(I) in propenylglucose, 23
Lewis acid – for divergent stereocontrol of asymm allylsilanes with aldehydes, 2383
Lewis acid – in cyclization unsaturated selenoacetals, 105
Lewis acid – of PTOC carbamate radical cyclizations, 6493
Lewis acid – reaction chiral allylstannanes with aldehydes, 13
Lewis acid – unsaturated selenoacetals, seleno–cyclohexanes from, 105
Lewis acid, $BF_3.Et_2O$ in amination of Co–complexed propargyl alcohols, 2137
Lewis acid, in Diels–Alder reactions of toluenesulfinylmaleate esters, 947
Lewis acid, of diene addn to dimethyl isopropylidenemalonate, 355
Lewis–acid, addn 2–silyloxy–1,3–dienes to imines, 491
Lewis–acid –, chiral Diels–Alder reactions of β–pinene–derived keto–ester, 2005
lithium perchlorate catalyst for conjugate addn of silyl ketene acetals to enones, 4665
methylviologen in SET photocyclization of 1–(3–hydroxypropyl)–piperidines and –pyrrolidines, 5147
molecular sieves in Pd–, Co–catalysed carbonylation of halides, 4733
Ni–catalysed displacement MeS group from terpyridine by Grignard, 3325
OsO_3 in β–lactam acetoxylation, 2145
oxidative decarboxylation of allyl β–ketoesters, Pd(II)–, myrcene condn with Me acetoacetate, Rh(I)–cat, 1433
Pd – in enyne and diene synth by coupling, 69
Pd(0)— $AlMe_3$ enol phosphate coupling for conversion β–keto– to β–methyl–αβ–unsat–lactone, 4027
Pd(0)— in cross–coupling of alkynylzincs to 1–and 2–iodo–1,3–enynes, 3329
Pd(0)— Suzuki coupling vinylborane to aryl and vinyl bromides, 43
Pd(0)— intra– and inter–mol cyclizations of allene episulfides, 4573
Pd(II)— *cis* addn of tributyltin hydride to 1,3–diyne, 3329
$Pd(PPh_3)_4$ in synth of fused indoles, 3317
Pd—, for formation and cyclization of αβ–unsaturated phenylimines, 1459
Pd— coupling 1–alkynes to bis–enol triflate, 1449, 1453
Pd— in cyclization and ethynylation *via* tributylstannylalkyne, forming (3–alk–2–ynylidene)cyclopentene, 5243
Pd— stereosel diene, enyne cyclization on carbohydrate templates, 2161
Pd—, synth poly–thiazolyl pyridine by, 4263
Pd— cross–couplings of 2–, 3–bromo–2,3–dideoxyuridine derivs, 3391
Pd— coupling in synth open–chain analog of neocarzinostatin chromophore, 3405
Pd— cyclization 1,5–hexadien–3–ols to 1–methylcyclopenta–1,3–dienes, 4501
Pd— cyclization forming imidazo[4,5–*c*]quinolin–4–ones, 6915
Pd— ring expansion 2–vinyl–1–oxaspirohexanes to 2–ethylidenecyclopentanones, 3395
Pd— Sn–mediated α–methylene–γ–butyrolactone synth from aldehydes, 225
phase transfer – in Darzens–type reactions of dichloromethyl–oxazolines, 87
reductive hydroxycarbonylation of *gem*–dibromocyclopropanes using $CoCl_2$, $NiCl_2$, KOH, H_2 and CO under PTC conditions, 3349
Rh— addn α–formyldiazoacetic ester to nitriles, 17

Rh— silyl–carbonylation of propargylamine derivs, α–silylmethylene–β–lactams, 7431
rhodium–iodide in butanone synth from methyl formate, ethylene, and CO, 3989
ring–opening of oxiranes by cyanide, effect of metal salts, 4775
Ru complex, for olefin hydroformylation–reduction, 505
secondary amines, in displacements by azide, 663
selenium in sulfurisation of isocyanides to isothiocyanates, 3503
silica, for intramol Diels–Alder cycloaddn of dienylalkyl–nitroolefins, 441
synth enynones from vinyl triflates, alkynes, and CO, Pd–catalysed, 6449
tandem Pd— cyclization and anion capture, 2545
trifluoromethylation of organic halides by $ClCF_2CO_2Me$ with KF/CuI in DMF, 7689
triflyloxy–vinyl ethers, Pd–catalysed allylation, carbonylation, vinylation, 157
weak acids in pivalaldehyde–lactic acid condn, stereochem of 1,3–dioxolan–4–one, 1441
zeolite, montmorillonite, for Markownikov addn of HCl to 1–methylcyclohexene, 3705
$[RhCl(C_2H_4)_2]_2$–$SnCl_2$–catalysed reaction vinyl ketones with allyl acetone, 1077
see also Phase transfer

Catalysts

(–)–Rh(I)–phenyl–CAPP complex for asymm hydrogenation of itaconic acids, 3671
(*S*)–BINAP–$RuCl_2$ in presence of Et_3N for low–pressure enantiosel hydrogenation of β–ketoesters, 4227
2,2′–bis(dicyclohexylphosphino)–6,6i–dimethylbip henyl Rh(I) norbornadiene, for asymm hydrogenation, 4745
2–hydroxy–1–naphthaldehyde Schiff base with dipeptide, Ti(IV) complex chiral cyanohydrin synth catalyst, 4333
acetone oxime/$CuCl_2$ for oxidation (O_2) of 4–methylphenols, 2053
achiral and chiral Rh–phosphine – stereosel, enantiosel addn catecholborane to 1–phenyl–1,3–butadiene, 3387
arylselenolate anion in addn R_F–SAr to enol ethers; synth R_FCH_2CHO, 3385
asymm Ag(I) – for condensation of Me cyanoacetate with aldehydes, 2799
asymm hydrogenation, Ru–BINAP complexes for, 4381
BINAP–Ru(II) – for asymmetric hydrogenation, 4163
bis(diphenylphosphino)ferrocene $NiCl_2$ complex, for cross–coupling neopentyl iodides with Grignards, 189
bromo(pyridine)cobaloxime(III) for hydro–perfluoroalkylation of acrylates, 4001
chiral (salen)Mn(III) complex for asymmetric epoxidation, 6533
chiral – for enantiosel Diels–Alder reaction, (–)–2–methyl–4,5–diphenyl–1,3–ditriflyl 1,3–diaza–2–aluminacyclopentane, 7517
chiral –in conjugate addn diethylzinc to enones, 95
chiral cyclic dichloro–Ti(IV)–dialkoxide, origin of enantioselectivity, 6289
chiral metalloporphyrins for enantioselective catalysis of epoxidation of *p*–chlorostyrene by PhIO, 4901
chiral Ti(IV) Lewis acid – for kinetic resolution of 2,3–epoxy–alcohols, 3547
chiral Ti–complex for Diels–Alder cyclopentadiene – dimethyl fumarate, 883
chiral wall tetra–2–(1,1′–binaphthyl)porphyrin–Rh–I for cyclopropanation of olefins, 2445
chiral, (*R*)–1,1′–binaphthalene–2,2′–diol, Ti(IV) complex in asymm hetero–Diels–Alder synth, 935
clay – in benzyl group transfer in amines, redox mechanism, 303
cobalt – for carbonylation of mesylates and other sulfonates, 3091
cobalt carbonyl, tin–cobalt carbonyls, for carbonylation of 2–bromoethylbenzene, 4703
coupling by $Pd(PPh_3)_4$ and CuI, of δ–acetylenic malonates and 1–halo–alkynes, propynylidene cyclopentanedicarboxylates, 6541
$Cp(Ph_3P)_2RuCl$ for isomn allylic alcohols to satd aldehydes, ketones, 3039
CuCl–2,2–bipyridine for radical cyclization 2–halo–3–oxa/aza–5–alkenoic esters, 3123
ferrocenylamine–sulfide Pd(II) complexes, hydrogenation of conjugated double bonds using, 5489
hydrogenation –, trinuclear ruthenium diphosphine halide, x–ray struct, 3101
iridium, ruthenium –, isomern of alkyne groups to (*E*,*E*)–1,3–dienes in dialkynyl ketones by $IrH_5(iPr_3P)_2$, $RuCl_2(PPh_3)_2$, 7549
iron–containing systems (Gif, Go–Agg) for S insertion into C–H bonds, 2351
Lewis acid –, MNDO calc of reactivity towards ene reaction catalysis, 3837
Lewis acid, for conversion of alcohols into bromides and iodides *via* thp ethers, 1081
Lewis acid, $LiBF_4$ for intramol Diels–Alder reactions, 1549
Lewis acid, methylaluminum dichloride for epoxide–initiated cation–olefin cyclization, 7005
lithium iodide – for Michael addns of β–dicarbonyl compds to enones, 5373
manganese cluster for alkane, alkene oxidation, 1153
metalloporphyrins on silica, for sulfide–sulfoxide oxidation by PhIO, 1457
nickel bis(tosylaminobenzylidene)ethylenediamine complex for epoxidation using dioxygen, 6891
osmium tetroxide in *N*–methylmorpholine oxide oxidation sulfides to sulfones, 5043
oxidation –, octahalo–meso–tetraarylporphyrins, 1355
pallada–cyclopentadiene tetracarboxylic ester in enyne metathesis of alkynyl–subst cyclic olefins, 3647
palladium – for hydrogenation of fluoro–alkenoic esters, 2735
Pd(0) complexes for hydroxyprenylation with isoprene 3,4–epoxide and 3,4–dihydroxyisopentenyl carbonate, 2193
$Pd(OAc)_2$ in arylation of allyl alcohols to styryl alcohols and to β–arylethyl aldehydes and ketones, 2121
Pd–catalyst ligand modification in aryltributylstannane coupling to vinyl triflates, 4243
racemic η^5–cpd–(CO)[$P(OMe_3$](thf)Fe^+ as Lewis acid – in Diels–Alder reactions, 5299
rhodium(II) polyethylenecarboxylate as toluene–soluble cyclopropanation –, 2731
sulfonated PPh_3 ligand to Pd(0) for allylic substitution, catalyst recycling, 2025
sulfonylated charcoal as heterogeneous acid – in acetalization, 413
tellurium tetrachloride, for dithioacetalization, 2039
tetrakistriphenylphosphinepalladium(O), in reductive cond bromoacetic ester with aldehydes, 513
titanium and vanadium in epoxidation of electron–deficient hydroxy–olefins, 2687
transition metal – for SmI_2 reduction of alkynes to alkenes, 5559
triorganothallium in C–C bond–forming reactions, 2255
vinyl chloride – acetylene cross–coupling, $PdCl_2(PhCN)_2$.CuI in piperidine, 6109

zinc chloride for Knoevenagel condensations, 5821
zirconocene dichloride, for ethyl Grignard addn to olefins and synth 1,4–dimagnesium reagents, 6797
$ZnCl_2$, $CaCl_2$, $MnCl_2$, effect on stereochem of BH_4^- reduction of α–methyl–β–keto–esters, –amides, 6147
[1,4–bis(diphenylphosphine)butane]palladium dichloride, for arylboronic acid coupling to 2–chloro–azines, 2273

Cembranoids
absolute configuration of cembranolides, anomalies in modified Mosher's method, 2923
methyl sarcoate, isol from *Sarcophyton glaucum*, possible biogenetic biscembranoid precursor, 2917
methyl sarcophytoate, absolute configuration by difference CD spectroscopy using $Eu(fod)_3$, 6595
synth of intermed to crassin acetate, 3605
un–named 10,18–epoxy–cembrenoid diterpene from coral *Sarcophyton sp.*, 2825

Cephams
methylenecephams and cephems, synth by Co–promoted rearr and elim iodomethylpenams, 7093

Cephalosporins
4–pivaloylcephems, synth, *S*–oxidation and other reactions, 6207
7α–formamido—, large–scale synth, 2683
methoxy–deamination of 7β–amino–3–deacetoxycephalosporanic acid, 3883
nitrogen mustard – carbamate prodrug for antibody directed therapy, 3269
Pd–catalysed vinyl–, aryl–tributylstannane coupling to *O*–fluorosulfonyl enolates of β–ketoesters, 4073

Cerium and cpds
dichlorocerio–acetonitrile, addn to ketones, 5473
methyl Grignard addn to hindered methyl ketone, 871
trichloride, dimerization of vinyl Grignards by, coupled products with dibenzyl ketone, 2787
trimethylethynylcerium dichloride, addn to ketone, 1707

Cesium and cpds
alkalide from 18–crown–6, thermal decomposition, 5039

Chalcones
from araldehydes and bis(aroylmethyl) sulfoxides, 7469
malononitrile, reaction with –, formation of Michael adduct, 3–cyano–2–pyridone, 2–aminoisophthalonitrile, or polysubst cyclohexanol, 5375

Chelation
effect of on Pd–complexed trimethylenemethane addn to double bond, 1103
formal P^+ species, – by 8–hydroxyquinolines, 75

Chemotherapy
3′–thio–3′–deamino–doxorubicin analogs, synth using 3–thioglycals, 3313
cephalosporin nitrogen mustard carbamate prodrug for antibody directed therapy, 3269
etoposide thioglucose analog, synth, 6927
etoposide, 1–thioglucose, *S*–oxides, –dioxide analogs, 2849
lipophilic chlorin for photodynamic tumor therapy, 3481
membrane anchored prodrugs, lipophilic nucleotide triesters, 6553
photodynamic –, water–sol pyropheophorbide A derivs, 5107
platelet activating factor analogs, synth 1–*O*–octadecyl–2–alkylaminodeoxyglycero–phosphocholines, 6521
platelet activating factor analogs, synth 1–*O*–(3′–carboxypropyl)–glycero–3–phosphoserine, 6525
taxol, asymm synth 3–phenylisoserine for, 3151
thioether analogs of ethidium bromide, 5019

Chlorins, Chlorophyll and derivs
bacteriochlorin chromophore, from divinylporphyrin by cycloaddn, 2875
petroporphyrins, synth chlorophyll c fossils, serpianoporphyrin, 2537

Chromanes
3–alkylchromanones, synth from 3–phenylsulfonylchromanones, 7727
2*H*–1–benzopyrans, addn of *N,N*–dichlorocarbamate, stereosel syntheses of 3,4–diamino—, 4045
4–methylene—, by $Hg(OCOCF_3)_2/BH_4^-$ cyclization of aryl buta–2,3–dienyl, but–2–ynyl ethers, 6641
pyrolysis to *o*–quinone methide, detection, dimerization, 2013
rotenone–isorotenone rearr in deuterated acid, mech, 7337

Chromatography
affinity –, use of hexapeptide somatostatin analogs, 4675
capillary supercritical fluid – with chiral stationary phase, polysiloxane–diamide copolymer, 3609
chelex 100 column for inositol hexaphosphate purification, 1863
chiral polysiloxane–diamide copolymer, 3609
hplc of tetranucleotide cleavage products by kapurimycin A3, 7719
liquid – on cellulose triacetate, optical resolution of allenes, 7225
polysiloxane–diamide copolymer, chiral stationary phase, for capillary supercritical fluid chromatography, 3609
reverse phase, of β–cyclodextrins disulfonylated with two different groups, 6737

Chromenes
2*H*–1—, addn of *N,N*–dichlorocarbamate, stereosel syntheses of 3,4–diamino–dihydro—, 4045
4–halo–2*H*–, from 4–chromanones and PX_3, 827
4–methyl–2*H*—, by $Hg(OCOCF_3)_2/BH_4^-$ cyclization of aryl buta–2,3–dienyl, but–2–ynyl ethers, 6641
6–cyano–2,2–dimethyl–4–(1–oxido–2–pyridyl)–, potassium channel opener, synth, 811
precocenes I, II, one–step synth, 7251
synth by Heck reactions with *o*–iodophenols, 7739

Chromones
2–spiro–chroman–4–ones, Tl(III)–oxidative rearr to 2,3–fused chromones, 5619
3–alkyl—, synth from 3–phenylsulfonylchromanones, 7727
vinaxanthone, xanthonyl—, mould metabolite, 4737

Chromium and compds
(μ–hydridodichromium decacarbonyl)$^-$, hydrogenation of olefins, aldehydes, α–ketoesters, 1199
2–arylidene–1–tetralone – $Cr(CO)_3$ complex, diastereosel Michael addn to, 1085
biphenyl bis(chromium tricarbonyl) di–anion, action of electrophiles, 3341

chiral hydroxyalkyl–, dimethylaminoalkyl–benzene–$Cr(CO)_3$ complexes, synth, chiral catalysis by, 4569
decomplexation of arene chromium tricarbonyls by dimethyldioxirane, 5629
fluoroarene tricarbonylchromium complexes, nucleophilic substitution and addn of 2–lithio–2–methylpropionitrile, 6323
halobenzene–$Cr(CO)_3$ complexes, methyl benzoate complexes from by catalytic alkoxycarbonylation, 4705
halogenoarene— tricarbonyl complexes, *tele–meta*– hydro–dehalogenation by $Et_3BH(D)Cl$, 6703
organo–Cu addn to $Cr(CO)_3$–complex of *o*–subst phenyl propenyl ketones, 4565
pentacarbonyl – ethoxy–carbene complexes, Dötz annulation using hydroxy–alkynes, and Mitsunobu cyclization, 7759

Circular dichroism
2*H*–pyrano[3,2–*b*]oxepin, 6–(buta–1,3–dienyl)–3,4,4a,6,9,9a–hexahydro–, conformation and configuration, 4505
6,1′–propanouridine, spiro–bridged nucleoside fixed in *syn* conformation, 4549
absolute configuration of chiral γ–silyloxy allylstannanes, 2101
alatanin C, stacking and self–association, 5579
bisignate n–π^* – of *N*–nitrosopyrrolidines, 3255
calix[4]arene derivs, in chiral partial cone conformation, 7747
calyculins, absolute stereochem C33–37 hydrolysis fragment, 5605
cedrelin A, abs stereochem from Cotton effect, 2793
config of 1,5–diacyloxy 3–t–butylsilyloxycyclohept–6–enes using, 2597
difference CD spectroscopy using $Eu(fod)_3$, absolute configuration of methyl sarcophytoate, 6595
inter–ring bridged triarylboranes and congeners, resolution, 6363
theoretical study of CH–π–interaction in α–phellandrene conformations, 6587

Clays and earths
hydrosilylation of carbonyls by montmorillonites, hydroxyapatites, calcium oxide, 4741
see also Supported reagents/reactions, Zeolites

Cobalt and compds
allylaminocarbonyl–Co(III) salophen, azetidinones by radical cyclization, 259
bromo(pyridine)cobaloxime(III) for hydro–perfluoroalkylation of acrylates, 4001
catalysis by $CoCl_2$ of condensation enolisable aldehydes with Me acetoacetate, 1663
catalyst for diethylaminocarbonylation of gem–dihaloalkanes, 781
chiral Co(II) ephedrine catalysts for azomethine ylid cycloaddn, 5817
$Co_2(CO)_6$–complexes of 1,6–enyn–5–ols, formn, *O*–alkenylation, Pauson–Khand cyclization, 2105, 2109
cobaloxime–mediated photocyclization epoxy–olefins to homoallylic alcohols, 243
cobalt carbonyl, tin–cobalt carbonyls, for carbonylation of 2–bromoethylbenzene, 4703
cobaltous chloride catalyst of anisole acylation, 5179
dec–3–ynal $Co_2(CO)_6$ complexes, stereochem of allylboration, Pauson–Khand reactions, 6285
dicobalt octacarbonyl in synth bicyclo[7.3.1]trideca–2,6–diyn–13–one derivs, 3679
monosaccharide cobaloxime derivs in synth branched and extended sugars, 3639

Coenzymes
molybdenum cofactor, synth (±)–dephospho–form A, 7357

Complexation
calcium ions by 21–membered tetralactams, stability constants, 919
chiral amino–diether for asymmetrization of organo–Li in addn to CH=N bonds, 3095
CO – in bis–ansa polyamide strapped porphyrins, myoglobin models, 2129
cobalt – and stereoselectivity of aldol reactions of propynal, 7553
cooperative, of Cs^+ by bis–crown ether–containing polypeptides, 331
host–guest –, dication in a polyanionic cyclophane, 7295
potassium ions by sterically switched polyether, 35

Complexes
neocarzinostatin chromophore, protein –, 3175
Tc(V)—, monoamine–monoamide–disulfide ligand for, 5485
water–sol tetrakis–quaternary porphyrins with ct–DNA, 3453
2–(dialkylaminomethyl) 1,1′,4,4′–tetrathiafulvalene, charge transfer –to TCNQ, 6407
2–arylidene–1–tetralone, $Cr(CO)_3$ –, diastereosel Michael addn to, 1085
4,4′–bipyridine, square tetrameric complexes with Pt, Pd, and complexation with organics in aqueous soln, 5589
alkyl–CuCN–ZnI – for alkylation pentadienyl iron tracarbonyl cations, 113
allyl cyclopentadienyl iron(II) dicarbonyl, homoallylic alcohols from ketones with, 4639
iron – of bleomycin model with long side–chain, 6869
iron tricarbonyl – of pentadienyl cations, trimethylenemethanes, dienes, 7047, 7051
Meisenheimer – of 2,4–dinitro–6–nitrosoaniline, 5823
trinuclear ruthenium diphosphine halide, $[Ru_3Cl_5(S\text{–binap})_3]^+ BF_4^-$, x–ray struct, 3101

Configuration
(*S*)–2–methyl–, 2–benzyl–succinic acids, by asymm hydrogenation itaconic acids, lit correction, 3671
2–lithio–2–triphenylsilyloxiranes, stability of –, 2783
absolute – hydroxylamino–sugar fragment of esperamicin, 1851
absolute – by modified Mosher's method, of cembranolides, anomalies in 2923, of aminoacids and amines, 2939
absolute – of chiral 2,3–epoxy–1–hydroxy–1–methyl–4–silyloxybutyl benzene, 6731
absolute – of chiral γ–silyloxy allylstannanes, CD and stereochem of 1,3–isomerization, 2101
absolute – of drimane sesquiterpenoids from *Aspergillus oryzae*, 4765
absolute – of methyl sarcophytoate by difference CD spectroscopy using $Eu(fod)_3$, 6595
instability of – of 1–lithio–1–methyltetrahydroisoquinoline 2–amidine derivs, 5505
inversion of alcohol – by Mitsunobu reaction, *p*–nitrobenzoate as incoming nucleophile, 3017
partial retention at P on reduction of P(V)–Cl compounds to P–H by SmI_2, 2493
retention of – in nucleophilic substn by halide ion of β–phenylsulfonylvinyl phenyliodonium salts, 7711

Conformation
(*E,E*)–suspensolide, dynamic nmr, MM, importance of in rearr, 5303

10,11,12,13–tetradehydro[19]annulenone, 9,14–dimethyl–, double–bond isomers in neutral and acid soln, 5129
15–hexadecanolide, molecular mechanics, alkylation by LTMP/MeI, 1027
9–phenyl–9,10–dihydroanthracenes, geometry of anion, effect of CN group, 5659
alkane –, simulated annealing for calculations, 3601
axial preference for NMe_2 at P in 1,3,2–oxazaphosphorinane, 899, corrigendum, 3900
benzylamines, by supersonic jet MRES, 3945
bis–(1,1′–binaphthyl) cyclophanes, importance of – in chiral recognition, 6276
calculation of transition state for sigmatropic [3,3]–rearr forming 10–membered thiolcarbonates, 1203
calix[4]arene, unsubstituted, MMX calcs and crystal structure, 5655
calix[4]arenes, conformation, alkylation, solvent effects, 2675
chiral partial cone – of calix[4]arene derivs, 7747
crystal – of *N*–formyl tripeptide ester, 4375
dimethyl 1,3–diselenane–2–phosphonate, *cis*– and *trans*–5–t–butyl–, nmr, x–ray, 4189
enantioselective Ti(IV)–catalysed Diels–Alder reactions, – of transition state, 6289
glycosyl donor – in stereoselectivity of 2–deoxy–D–fucoside formation, 6887
myo–inositol hexaphosphate and derivs, 1863
neohalicholactone, 9–membered, from sponge, by x–ray, 2427
of α–phosphonyl pyrrolidine nitroxides by esr, 2125
sangivamycin, methyl derivs and conformation, MM calcs and enzyme inhibition, 7273
slow isomerisation of – of synthetic precursor to 16–membered macrolides, influence of – on stereochem of C=O group reduction, 5133
solid–state – of (–)–(1′*R*,4′*R*)–dioxolane–thymine, 3791
threitol derivs, chiral templates in Diels–Alder reactions, 7043
trans–1,2–bis(polyoxaalkyl)cyclohexanes, K^+ ion binding effects, 35
triazolo[4,5–*d*]pyrimidine, 3–(*m*–chlorophenyl)–7–cyclopentylamino–5–methylthio–, restricted rotation, 3583
tris(trimethylsilyl)silyl radical adduct to ketones, radical –, 6097
[3.3] and [4.4]orthopara–, [3.3]orthometa–, dithia[4.4]orthometa–cyclophanes, by pmr and x–ray, 2117

Copper and compds
α–trimethylsilylvinylcuprate addn to β–alkoxyaldehydes, 857
alk(en)yl cuprates, addn to 5,6–dihydro–4–pyridone–1,3–dicarboxylic esters, 3643
alkyl–, alkenyl–Cu(CN)ZnI reagents, displacement of β–EtS– and β–$PhSO_2$– groups in nitroolefins, 441
alkyl–CuCN–ZnI complexes for alkylation pentadienyl iron tracarbonyl cations, 113
allyl– reagents, reaction with chiral imines, 1367
ammonoxidation, $Cu(NO_3)_2$–promoted, of aldehydes and ketones to nitriles, 1007
aryl–, aryl trifluoromethyl ketones from, 2003
arylcuprates, conjugate addn to 3–methoxy–4–vinylcyclobutenedione, 1129
benzylic Cu(CN)ZnBr reagents, in pyridine substitution, 2033
butadienyl cyanocuprates, lynchpin of diene–diketone synth, 7211
chiral amidocuprates with (*S*)–MAPP, diamine ligand, enantiosel addn to cyclic enones, 3973
Cu(I) complexes of bi–(2–oxazolin–2–yl)methanes, use in cyclopropanation with diazoalkanes, 7373
diaryl–CuLi reagents for replacement tosyloxy by aryl, 2625
diastereosel conjugate addn organocuprates to chiral binaphthol monocinnamate, 7277
dimethylcopper lithium in conjugate addn to enone; cyclohexa–1,3–dienylcopper coupling to enol triflate, Pd–catalysed, 5025
dimethylCuLi for β–methylation butenolides, 371
Gilman reagents from 2–bromocycloalk–2–enone ethylene acetals, applications, 605, 609
Gilman reagents, reaction with allyl mesylates, 855
isopropylcopper reagents, stereoselectivity of addn to cyclohexenone system, 447
methyl–Cu – alkenyl–Zr interchange, 5647
organocuprates, higher–order, conjugate addn to α–methoxy–enones, 4451
stannylcupration of acetylenes by $Bu_3SnCu(CN)Li$, synth enediynes, 6085
stereochem of $Me_2CuCNLi_2$ addn to 2–methoxy–1,7–dioxaspiro[5.5]undec–3–en–5–one derivs, 4081
vinylcopper reagents, reductive elimination in allylic oxy–compounds by, 4969

Coumarins
3–(1,1–dimethylallyl)–, by Claisen rearr and dehydrogenation sequence, angustifolin synth, 3209
3–alkyl–, –aryl–, synth from benzofuran, 5903
diethyl coumarin–3–phosphonate, synth, reactions, 4279
esters of —3–phosphonate, 3–(diphenylphosphinoyl)–, synth, 5341

Coupling reactions
2–bromopyridine deriv, Pd–catalysed – to benzeneboronic acid, 4883
2–t–butoxydimethylsilyl–3–hydroxymethylfuran–4–b oronate, Pd–catalysed cross—, 5881
3–bromopyridine to a benzeneboronic acid, Pd(0)–catalysed, 7261
bromoarene to areneboronic acid, Pd–catalysed, in phenanthrene synth, 4879
carbonylative Pd–catalysed, ketones from 9–alkyl–9–BBN, iodoalkanes and CO, 6923
cross—, biaryl formation in 6–azafluoranthene synth, 5277
cross–coupling neopentyl iodides with aryl Grignard reagents, Ni–catalysed, 189
intramol Pd–catalysed, bromo–aniline to imidazole ring at C–5, 6915
Markovnikov vinylboranes with aryl, vinyl, alkynyl bromides, 2311
metalloalkene/iodoalkene –, Pd–catalysed, application to vitamin A synth, 6683
organo–zinc halide Pd–catalysed cross–coupling, 1573
Pd–catalysed – for synth fluoroenynes and dienes, 69
Pd–catalysed cross— of 2–, 3–bromo–2,3–dideoxyuridine derivs with alkynes, silylalkynes, stannanes, 3391
Pd–catalysed intramol – 8–bromonona–2,8–dienoic ester forming 1,2–dimethylenecyclohexane derivs, 4937
Pd–catalysed oxidative dimerization of stannylquinones, 5681
Pd–catalysed tandem – iodo–enyne to alkyne, in benzene ring synth, 4167
Pd–catalysed, alkynes, vinyl triflates, and CO, to enynones, 6449
Pd–catalysed, of arylboronic acids to 2–chloro–pyridines, –pyrazines, –pyrimidines, 2273
reductive SmI_2–promoted carbonyl–alkyne –, allylic alcohols from, 4921
stannane–bromide cross—, Pd–catalysed, in synth of allylsilane derivs, 4341

Stille coupling of stannanes to β–ketoester enol triflates, 6675
Suzuki Pd(0)–catalysed – vinylborane to aryl and vinyl bromides, 43
vinylstannane to bromoarene, Pd–catalysed, in synth of allylic primary amines, 4121

Crown ethers
18–crown–6, uracil–1–yl, adenin–9–yl derivs as seco–nucleosides, 1821
anthracenylmethyl–benzo–18–crown–6, photoinduced electron transfer by, solvent, substituent effects, 421
benzo–18–crown–6, cooperative complexation of Cs^+ by two mols bound to polypeptide helix, 331
formation of mixed triphenylenes with one and two benzo–crown polyether systems, 7405
lariat ethers, mono–aza crowns with various side arms, extraction and homogeneous binding constants, correlation with Na^+ transport, 6269
ring–opening, ethylene formation and reduction, in alkalide and electride decomposition, 5039
stereoselective ketone reductions by poly–dibenzo–18–crown–6–formaldehyde borohydride complex, 2157

Cryptands
carcerand, molecular capsule of two mols calix[6]arenes joined by CH_2SCH_2 groups, trapped DMF, 5111
amino–acid based phosphodiester–bridged macrocycle, 7723

Cubanes
1,4–bis(diisopropylcarboxamide), functionalization by magnesiation, 2173

Cyano compds
15–cyanopuupehenol, metabolite from sponge, 5671
2,3–epoxy–4–hydroxybutyronitrile, chiral material in asymm synth 2,3–epoxybutane–1,4–diols, 6731
9–(4–cyanophenyl)–9,10–dihydroanthracenes, effect of CN group on geometry of anion, 5659
α–amino–nitriles, pseudopeptides with CH(CN)NH link by modified Strecker synth, 7579
benzimidazole Reissert compound, synth, x–ray, reactions, 2997
cyanoimines, in synth pyrimidine derivs, 691
diastereoselection in CN^- addn to β–hydroxyketones, 5423
diethylaluminium –, reaction with chiral β–ketosulfoxides, 3195
enantiosel synth α–aminonitriles by modified Strecker reaction, 7597
from aldehydes and ketones by Cu(II)–promoted ammonoxidation, 1007
phenyliodine(III) dicyanide, synth, 733
sulfonyl cyanides, reaction with radicals R forming carbonitriles RCN, 3321
tetracyanoethylene, [2+2] cycloaddn to [6](1,4)–naphthalenophane, [6](1,4)–anthracenophane, 359
see also Nitriles

Cyanohydrins
asymmetric synth *via* chiral β–ketosulfoxides and Et_2AlCN, 3195
β–hydroxy—, diastereoselection in formation of, 5423
catalytic enantiosel synth by Ti(IV) complex of Schiff base of dipeptide with 2–hydroxy–1–naphthaldehyde, 4333
enzyme–catalysed synth (*R*)–ketone –, hydrolysis to α–hydroxy–α–methyl–carboxylic acids, 2605
rates of reversion, stereochemical dependence, 6513

Cyclic ketones
2–alkylcycloheptanone, chiral synth using SAMP, 537
2–cyclopentenone, 4–acetoxy–3–methyl–2–(2′–propynyl)–, resolution using lipase, 5119
2–formylcyclopentanone, conversion into dienol triflate and coupling to acetylenes, 3405
2–phenylthio–cycloalkanones, –cycloalkenones, enantiosel reduction by baker's yeast, 399
3–(3–oxobutyl)cyclopentanones, intramol condensation and double bond deacylation to 4–methylcyclohex–3–eneacetic acid derivs, 5581
4–acetoxycyclopent–2–enone, cyclopentadienone equiv in Diels–Alder reactions, 3739
9,14–dimethylcyclononadeca–2,4,6,8,14,16,18–pentaene–10,12–diyn–1–one, conformation, configuration, 5129
β–alkylcycloalkanones, chiral synth using complexed organocuprates, 3973
bicyclo[2.2.2]octanones, bicyclo[3.3.1]nonenones, bicyclo[3.3.0]octenones, from Michael addns of cyclic β–methoxy–αβ–enones, 4691
bridged cyclodec–5–enone system, reversible oxy–Cope rearr in, 319
chiral 2–(*p*–tolylsulfinyl) cyclohexanones and cyclopentanones, reaction with $AlMe_3$, 3191
cyclobutanones, by cycloaddn keteniminium salts to olefins, Baeyer–Villiger oxidation, 3827
cyclohexanone, 4–Me and 3,5–Me_2 derivs, BF_3–catalysed aldol, rearr, ring–cleavage to C_{12} keto–aldehydic acids, 7559
cyclohexanone, α–spiro–cyclohexene fusion, 589
cyclohexanone–3–spirocyclopropanes, synth in cycloaddn reactions, 3483
cyclopentadecanone, and α–methyl derivs, Baeyer–Villiger oxidation, 1027
cyclopentenone carboxylic esters, Nazarov cyclization of dienone esters, tetrahydropyrones, by trimethylsilyl triflate, 7731
fused cyclopentenones by rearr of spiro–butanolides, 3215
large–ring ketones and β–ketoesters, radical ring expansion, (±)– and (–)–muscone synth, 565
methylcyclohexanones, reduction by bis(2,4,6–triisopropylphenyl)hydroborate, 6243
photochem of 10–20–membered – in zeolites, Norrish types I/II reactions, 7675
regioselective synth 3–carboxycyclohexanones by intramol Diels–Alder cyclizations, 2715
Rh(I)–catalysed hydroacylation forming fused cyclopentanones, cyclohexanones, 3473
spiro—, synth using 1,2–methylenecycloalkane magnesium complexes, 5269
synth fused butenolides from – *via* spiro–β–lactones, 6501
synth *trans*–2,3–di(hydroxymethyl)cyclobutanone, [2+2]cycloaddn ketene dimethyl acetal to dimenthyl fumarate, 6997
trans–3,5–dihydroxycyclohexanone, synth, 7663

Cyclisation
1–ethynyl–3,4–dihydro–6–(3–oxo–1–butynyl)fulvene , radical – to indane derivs, 4863
1–methoxycarbonyl–1–azahexa–1,3,5–trienes, thermal, photochem, to dihydropyridine, 6895
αβ–unsaturated imines to quinolines, Pd–catalysed, 1459

allyl carbonate O–radicals, cyclic carbonates from, 45, 49
aminyl radicals from *N*–alkenyl hydroxypyridinethione carbamates, 6493
benzimidazole formation by electrooxidation of *N*–(*p*–methoxyphenyl)–*N'*–aryl trifluoroacetamidine, 5981
carbo— of ω–ethylenic propargyl zinc compounds, 5317
cationic bicyclization, in octahydronaphthalene synth, 4651, 4655
Co–mediated photo–, epoxy–olefins to homoallylic alcohols, 243
competitive 5– *vs* 6–membered – with PhS migration, 5409
cyclodeca–1,5–diene, in synth of perhydro–pyrano[2,3–*b*]oxepin derivs, 2245
cyclododeca–1,5–diene deriv, in synth of fused perhydro–pyrano[2,3–*b*]oxepins, 2245
diastereoselective – of 1,5–biradical cyclization, steric barriers in, 165
generation and 1,5–dipolar – of *N*–trimethylsilyl *C*–(β–styryl) azomethine ylids, 5093
intramol cycloaddn undeca–1,8,10–trien–3–one, 1549
intramol Heck reaction of allylic alcohols with vinyl halides, 6113
intramolecular nucleophilic aromatic, of 2–phenyl–1–tosylaziridine anion, 1299
keto–carbenoid to alkyne bond; further addn to externalalkyne and rearr to fused cyclopentadiene ketones, 3755
Nazarov cyclization of dienone esters, tetrahydropyrones, by trimethylsilyl triflate, 7731
Nazarov cyclization, theoretical study of reaction pathway, 725
oxidative – of tetramethoxystilbene deriv to phenanthrene by VOF_3, 5619
oxidative radical tetra– of 2–alkyl–3–oxo–6,10,14–trimethylicosa–6,10,14,19 –tetraenoic ester, 4819
Pauson–Khand – forming 2–oxabicyclo[3.3.0]oct–4–en–6–one derivs, 2105, forming reduced cyclopent[*a*]indene–2,4–dione derivs, 2109
Pd(0)–catalyzed, pent–4–enyl acetic/malonic ester derivs, 1641, 1645
Pd–catalysed – 1,5–hexadien–3–ols to 1–methylcyclopenta–1,3–dienes, 4501
Pd–catalysed –, forming small– and strained–ring polycycles, 3855, hexaalkyldistannane–modified catalyst, 3859
Pd–catalysed stereosel diene, enyne – on carbohydrate templates, 2161
phenylthio–migration and – forming 2–spiro–pyrrolidines and –tetrahydrofurans, 6645
photo–, forming oxo–oxa[5.5.5.4]fenestranes and analogs, 2105
photochemical – 2–(2–alkynyl)acetophenones to indenes and derivs, 31
radical – α,ω–dibromo–octatetraene deriv, synth tetra(bicyclo[2.2.2]octeno)–annelated COT, 6767
radical –, intramolecular, using silaketal tethers, 573
reductive – of vinylhalo–ketones, etc, using $Bu_3Sn.SiMe_3/R_4NX$, 6139
Rh(I)–catalysed hydroacylation forming fused cyclopentanones, cyclohexanones, 3473
Rh–catalyzed – chiral α–diazo–β–ketoester to bicyclo[3.1.0]hexane, 2339
silyl enol ether–olefin–epoxide bicyclizations, Lewis–acid catalysed, 7005
synth of 2,2–dialkylfuran–3(2*H*)–ones by base cyclization of 4–silyloxy–1,3–diketones, 2891
tandem – of lithio–olefins, bridgehead phenyl bicyclo[3.3.0]octanes and bicyclo[n.1.0]alkanes from, 417
tin hydride radical – of ω–bromo–polyoxyalkyl oxime ethers, 6437
transannular, of cyclic thia–enediynes to 3,4–dihydro–2–benzothiopyrans, 391

Cyclitols

(–)–quinic acid in synth ring A segment of vitamin D_3 deriv, 7663
amino–, alkoxyamino—, synth by radical cyclization of sugar oxime alkyl ethers, 6437
amino—, synth conduramine A–1, dihydroconduramine A–1, 6077
conduritol B tetraacetate, Pd–catalysed subst one acetoxy group by Meldrum's acid, 2471
conduritol B, synth protected deriv and conversion into *myo*–inositol, 7309
polyoxy–cyclopentanes, synth from heptono–δ–lactones, 6227
synth (–)–conduritol F from L–quebrachitol, 5593
toluene, 1,2–dihydro–1,2–dihydroxy–, oxidation to –, 1671
tri–*O*–benzyl–oxo— and – epoxides, precursors to D–*chiro*– and D–*myo*–inositols, 2501

Cycloaddition

1,3–dipolar –, diazomethane to 3–phenylsulfonylsulfolene, 7609
1,3–dipolar –, intramol, in synth amino–cyclitol precursor to (–)–allosamizoline, 5363
1,3–dipolar –, metal–complexed nitrile oxides to allylic alcohols, 6367
1,3–dipolar, 4–azahomoadamant–4–ene *N*–oxide to acetylenes, 4965
1,3–dipolar, azomethine ylids to *N*–methylmaleimide, 1359
1,3–dipolar, azomethine ylids from isatin and sec–α–aminoacids to menthyl acrylate, 5417
1,3–dipolar, diastereosel addn azomethine ylids to *N*–phenylmaleimide, 7531
1,3–dipolar, enantiosel intramol – of nitrones from 5–alkenals and chiral hydroxylamines, 4431
1,3–dipolar, nitrile oxides to benzo[*b*]thiophene 1,1–dioxide, 3699
1,4–naphthoquinone to 1–methoxy–4–trimethylsilyl–1,3–butadiene, 2197
1–ethoxycarbonyl–4,5–dihydropyrrole–3–carboxamide, intramol cycloaddn to diene system, catalysed by $EtAlCl_2$ and not, 6481
1–methoxycarbonyl–1,2–dihydropyridine – methyl acrylate adduct, 951
2,5–dimethyl–3,4–dimethylenethiophene to substituted styrenes and benzaldehydes, FMO calculations, 5305
3–(1,2,5,6–tetrahydro–1–methylpyrid–4–yl)–indoles, reactions with dienophiles, 1771
3–aza–1–thiabutadienes to DMAD, 2225
arylazocyanide addn to cyclopentadiene, 907
benzo[*b*]thiophene 1,1–dioxide, 1,3–dipolar cycloaddn of nitrile oxides, 3699
butadiene, isoprene, to β–nitrostyrene, 1695
chiral Lewis–acid–catalysed diene reactions with β–pinene–derived keto–ester, 2005
cyclopentadiene to menthyl acrylate on alumina, temperature dependence of d e values, 2303
cyclopentadienone equivalent in Diels–Alder reactions, 4–acetoxycyclopent–2–enone, 3739
cyclopentanones *via* borolanes from 1,4–dienes, 1479
cyclopropabenzene to diphenylisobenzofuran, radical mech, 593
Diels–Alder, of 4–phenyl–1,2,4–triazoledione to fused cyclohexadiene, 1299
dienes, – dimethyl isopropylidenemalonate to, $AlCl_3$–catalysed, 355
divinylporphyrin to DMAD, NPM, forming bacteriochlorin chromophore, 2875
glyoxal bis–anil, to ketenes, arylimonomethyl azetidinones from, 803

hetero–Diels–Alder, sugar arylazo–alkenes to benzo–, naphtho–quinone, azodicarboxylic ester, 2513
imines to silyloxy–dienes, *cis*–octahydropyrindin–4–ones from, 491
intramol 1,3–dipolar –, nitrile oxide to olefin in fused dihydropyran–3–one synth, 3605
intramol Diels–Alder, SiO_2–catalysed, of dienylalkyl–β–nitroolefins, 441
intramol [3+2] nitrone–alkyne –, fused pyrrolin–2–ones by hydrogenolysis, 2779
intramol [4+2] – dienes to azodicarbonyl group, 133
intramol [4+2] – in taxane skeleton synth, 2629
intramol [4+2]–, of unsat acylhydrazones, pyridines and reduced pyrido[1,2–*b*]pyridazin–2–ones, 125
intramol [4+2]—3–(pent–4–enyl)–*ortho*–benzoquinone mono–dimethylacetal, photorearr of cycloadducts, 6583
intramol [4+2]–cycloaddn with "pericyclic umpolung", 2715
intramol, to *N*–acyl–αβ–unsat thioamides, forming fused dihydropyrans, 405
intramolecular radical [2+2] and [4+2] – of allenyl sulfones, 1351
intramolecular [4+2], of allyl penta–3,5–dienyl sulfides, 2387
methyl acrylate to 2,6–bissilyloxy–3,4–dihydropyridine, *endo–exo* selectivity, 1401
N–benzylazomethinimine, to 5,6–dihydro–2–pyrone; 1241, to 2–methylenebutyrolactone, 1245
nitriles to oxocarbenes, Rh–catalysed, forming oxazoles, 17
on alumina, and retro—, cyclopentadiene with dimethyl maleate, fumarate; epimerisation mechanisms, 5663
radical [2+2+2] cycloaddn of ethyl propiolate to acrylic esters, 5101
tandem [2,3]–sigmatropic shift and 1,3–dipolar –, oxime allyl ethers forming fused isoxazolidines, 279
tandem [4+2]–, decarboxylation, [4+2]— of 2–pyrone to bis–dienophiles, synth bridged bicyclo[2.2.2]octene systems, 2549
TCNE, DMAD, – to [6](1,4)–Naphthalenophane, [6](1,4)–anthracenophane, 359
trapping furo[3,4–*d*]isoxazole deriv by *N*–benzylmaleimide, 1161
ynamino–esters, nitriles, to 2–arylideneindane–1,3–diones, 4051
[1+2]–, carbenoids from diazo–compds to methyl 4–chloro–3,3,4–trifluorocyclobutenecarboxylate, 7265
[2+1]–, dimethylvinylidenecarbene to double bonds, regioselectivity, 5547
[2+1]–, monohalocarbenes to cycloalkenes, stereochem, 6105
[2+2+2]–, DMAD to 3–alkoxy/acetoxy–quadricyclanes, spacer molecules from, 1885
[2+2]–, chlorosulfonyl isocyanate to allylsilanes, 2265
[2+2], of 2,2–bis(trifluoromethyl)ethene–1,1–dicarbonitr ile, with enol ethers, ketene dithioacetals, 1871
[2+2], [4+2], of singlet oxygen to phenylallenes, 1859
[2+2]– R_2AlCl–catalysed – ketene dimethyl acetal to dimenthyl fumarate, 6997
[2+2]–, dichloroketene–glycal cycloaddn, 7543
[2+2]–, intramolecular, ketene to olefin, 4623
[2+2]–, of ketenylidenetriphenylphosphorane to *N*–phenyl–bis(diethylphosphonato)ketenimine, 4279
[2+2]–, photo– of ethylene to fused cyclohexenones, 4177
[2+2]–, protected α–hydroxy–, α–imino–keteniminium salts to olefins, 3827
[2+2]–, stereoselectivity of cycloaddn of imines to fluoroketenes, 5461
[2+2]–photo–, forming cyclophanes, 2367
[2+2]–photo–, photochemical metathesis and rearrangements in cyclobutadiene–quinone adducts, 6403
[2+2]–photo—, in seco–pentaprismanedione series with fused cycloolefin groups, 6399
[2+2]–photo—, olefins to 1–phenylpenta–1,3–diyne, 6719
[3+2]–, 5–alkoxy–2–aryloxazoles to aldehydes, Lewis–acid catalysed, 6911
[3+2]— of diazo–esters to As=C bonds, formn of 1,2,4–diazarsoles, 2755
[3+2]–, of *C*–(cyanoimino)–azomethine ylids to carbonyl and thiocarbonyl compounds, 5987
[4+1]– of carbenes to 1,2,4,5–tetrazines, isopyrazole synth, 2743
[4+2]–, 1,3–bis(trimethylsilyl)butadiene to 1,4–anthraquinone deriv, 1109
[4+2]–, Diels–Alder reactions under microwave heating, 2363
[4+2]–, of vitamin A derivs to 1,2,4–triazoline–3,5–diones, 2379
[4+2]–, trimethylsilyl vinyl ketone to thiones, 4*H*–1,3–oxathiins, 2971
[4+2]– diastereosel, of camphor–derived 3–acyl 2–oxazolones to anthracene, cyclopentadiene, and of cyclopentadiene to chiral 3–alkenoyl oxazolidinones with bulky substitution, 7715
[4+2]– intramol – (acyl)nitroso group to 1,3–diene, 4325
[4+2]–, 1,3–cyclohexadiene ring bispiro–fused to hexacyclic birdcage framework, stereochemistry, 5935, influence of adjacent unsaturation, 5939
[4+2]–, 1,5–cyclooctadiene to hexachloro– and 5,5–dimethoxy–tetrachloro– cyclopentadiene, diastereoselectivity, 3289, 3293
[4+2]–, 1–bromo–1,2–dihydro–1,2–dihydroxycyclohexadiene acetonide to acylnitrosyls, 6077
[4+2]–, 2,3–dimethylbuta–1,3–diene with thionitrosobenzenes, 7459
[4+2]–, 2–methoxyfuran, 1,3–diphenylisobenzofuran, to arynes, 6735
[4+2]–, 2–methylpenta–1,3–diene to glyoxal mono–acetal and methyl glyoxylate, microwave heating, 1723
[4+2]–, 2–nitro–1,3–dienes to enol ethers, 5607
[4+2]–, 3,4–dihydro–1–naphthyl isocyanate to benzyne in benzo[*c*]phenanthridine synth, 5757
[4+2]–, 3–acetoxy–2*H*–pyran–2–one to dissymmetric vinyl ethers, 3147, corrigendum, 6044
[4+2]–, 4–nitroisoxazole to ynamine, with rearr, ring–cleavage and [3+2]– recyclization, 6223
[4+2]–, 5–benzyloxymethylcyclopentadiene to 3–acryloyl–2–oxazolinone with chiral methyl–Al catalyst, 7517
[4+2]–, anthracene to acenaphth[1,2–*a*]acenaphthylene, 7241
[4+2]–, azodicarboxylic ester to 1–alkylglucal double bond, 5021
[4+2]–, β–phenylsulfonyl enones to dienes, acylacetylene equivalents, 5405
[4+2]–, cyclic dienes to glyoxylic acid in water, 7529
[4+2]–, cyclopentadiene to methyl vinyl ketone on kaolinite clay, 2905
[4+2]–, cyclopentadiene to α–methylene–β–lactones, 7033
[4+2]–, dienes to methyl 4–chloro–3,3,4–trifluorocyclobutenecarboxylate, 7265
[4+2]–, dienes to thiones, selones, 7389, to selenoaldehydes, 7427
[4+2]–, dienes with 9–(2–trimethylsilylvinyl)–9–BBN, synth 1,4–cyclohexadienes and *trans*–2–silylcyclohex–4–en–1–ols, 7365
[4+2]–, enantiosel Lewis acid catalysed, acryloyl threitol derivs to cyclopentadiene, 7043
[4+2]–, enantiosel, 1–mesityl–2,2,2–trifluoroethanol as chiral auxiliary, 6839
[4+2]–, enantioselective Ti(IV)–catalysed, conformation of transition state, 6289

[4+2]–, forming phenols, phenyl ethers, and oxazolidione derivs of these, 5721
[4+2]–, high pressure $EtAlCl_2$ catalysed –3–methylcyclohex–2–en–1–one to dienes, 6445
[4+2]–, intramol addn of enol pyruvate double bond to diene system, 4095
[4+2]–, intramol cycloaddn of *N*–propargyl nicotinamides, isoquinoline–1–carboxamides, 5481
[4+2]–, intramol Diels–Alder approach to enantiosel synth of Δ^1–octalin, 4091
[4+2]–, intramol, αβ–unsat oxime ether to ynone in fused pyridine synth, 7643
[4+2]–, Lewis acid–catalysed –cyclonona–1,2–dien–4–one ethylene acetal to 1,3–dienes, 6473
[4+2]–, $MeAlCl_2$–catalysed intramol – of furan to enone, 6473
[4+2]–, of 1–methoxy–3–trimethylsilyloxy–1,3–butadiene to methacrylonitrile, 1921
[4+2]–, of 2,5–bistrifluoromethyl–1,3,4–oxadiazole to olefins, 1885, 1889
[4+2]–, of 2–(trialkylsilyloxy)–allylidenecyclopropanes to numerous dienophiles, 3483
[4+2]–, of 2–nitro–1,3–dienes to cyclopentadiene, methyl acrylate, ethyl vinyl ether, 2517
[4+2]–, of 4–dimethylamino–1,3–diazabutadienes to 2–oxazolin–5–ones (v.b. tautomers), dihydropyrimidones from, 5151
[4+2]–, of dienes to $C{=}S^+$ bond of 2–benzothiopyrylium ions, 5572
[4+2]–, of *o*–dimethylene–pyrazoles, 7609
[4+2]–, trapping of 4,5–dihydro–4,5–dimethylene–3–phenylisoxazole, 4603
[4+2]–, 3,6–bistrifluoromethyl–1,2,4,5–tetrazine to cyclooctatetraene, barreleno–pyridazines, 5949
[4+2]–, enantiosel, of dienes with 4–phenylsulfonyl–5–alkoxy–2(5*H*)–furanones, 7751
[4+4]–, 4,5–dimethoxy–1,2–xylylene to 1,4–diacetoxyanthracene, 3183

Cycloalkenes
1,2–bis–t–butylsulfonyl–, reduction, alkylative desulfonylation, 4579, 4583
1,5–cyclooctadiene, 3,4–diethoxy–7,8–di(spirocyclopropyl)–, 551
1–methylcyclohexene, catalysed addn of HCl, 3705
C_5–C_8, C_{10}, C_{12} cyclo–olefins, 1,3– and 1,5–cyclooctadienes, stereochem of addn of mono–iodo–, bromo–carbenes/oids, 6105
cyclohexene, stereoselective synth by intramol cycloaddn, 4095
cyclopentene from 1,3–cyclopentanediyl by laser excitation, 2211
isotopic study of elimination from 3–methoxycyclohexene in gas–phase, 4077
medium–ring —carboxylic esters, 6371

Cycloalkynes
1,6–dialkyl–1,6–diazacyclodeca–3,8–diynes, tri–and tetra–azacycloalka–tri– and tetra–ynes, 2887
1–thia–6–azacyclodeca–3,8–diynes, 6–methyl–, 6–tosyl–, 2883
cyclodec– and cycloundec–4–en–2,6–diyn–1–ol, synth by Cr(II)/Ni(II)–mediated acetylide–aldehyde cyclization, 3171
cyclooctyne – furan adduct in synth lactone (–)–muricatin, 5535
cyclotetradecadienyne ring closure in cembranoid synth, 3605

Cyclobutanes
3,4–di(2–ethoxyvinyl)–1,2–di(spirocyclopropane), 551
bridging units in 2– and 3–bridged cyclophanes, 2367
chiral cyclobutanones, synth *via* dichloroketene–glycal cycloaddn, 7543
fused –, from cycloadducts of cyclobutadiene with bridged naphthoquinone, 6399
fused cyclobutanimino radicals, generation, cleavage, 4299
fused to cyclohexane, cyclopentane systems, 3069
fused, formation in Pd–catalysed cyclizations, 3855
synth *trans*–2,3–di(hydroxymethyl)cyclobutanone, [2+2]cycloaddn ketene dimethyl acetal to dimenthyl fumarate, 6997

Cyclobutenes
4–(phenoxyacetamido)–2–(2–hydroxy–3,4–dioxocyclo butenyl)isoxazolidin–3–one, K salt, squaric acid deriv of cycloserine, 3767
bridged/fused, by Pd–catalysed enyne metathesis reactions, intermediates and products in, 3647
cyclobutadiene–1,2–dicarboxylate, cycloaddn to bridged naphthoquinones, anthraquinones, 4989
cyclobutadiene–1,2–dicarboxylate, cycloaddn to bridged naphthoquinones, anthraquinones, 4989
cyclobutene deriv by rearr cyclopropyloxirane, 551
cyclobutene–1,2–dione synth via 3–methoxy–4–vinyl compd, 1129
methyl 4–chloro–3,3,4–trifluorocyclobutenecarboxylate , synth, reactivity with dienes, carbenoids, nucleophiles, 7265
stereochemistry of thermal ring–opening of 3,4–*cis*–disubst derivs, 2953

Cyclodextrins
6–amino–6–deoxy–[7]–, aldolase model, 1207
amphiphilic, per–2,3–di–*O*–(hexanoyl, dodecanoyl) derivs, vesicles with phospholipids, 2769
baker's yeast catalysed chiral β–amination of cinnamic esters, improved e.e. in presence of β—, 6611
catalysis of phenol–diazonium salt coupling by, 5231
cyclo–L–rhamnohexaose, synth from monomer, 5551
enantiosel [3,3]–sigmatropic rearr of *O*–cinnamyl *S*–methyl xanthate in β— complex, 7557
methylated β–cyclodextrin, 2,4–dinitrophenyl sulfate solvolysis in, 2205
mono–6^A–*O*–*p*–nitrobenzenesulfonyl mono–6^X–*O*–β–naphthalenesulfonyl β—, synth, structure determination, 6737
photo–Fries rearr of benzenesulfonanilide in –, *ortho* selectivity, 2975
selective 2–*O*–tosylation after 6–*O*–protection as TBDMS deriv, 3997

Cycloheptanes
6–cycloheptene–1,3,5–triol, enantiosel synth by enzymic asymmetrization, 2597
cyclohept–2–ene–1,4,6–triols, asymm derivs, conversion into 2,4–dideoxyhexoses, 3931
electroreductive alkylation of cycloheptatrienes, 1051
fused —1,4–dicarboxylic acids, synth from fused cyclohexenones, 4177

Cyclohexanes
1,1–bis(MeSe, PhSe)–4–t–butyl—, stereochem of RSe/Li exchange and radical reduction, 3231
1,1–dicarbonitrile, 3–benzoyl–4–hydroxy–2,4,6–triphenyl–, from chalcone–malononitrile reaction, 5375
1,2–dimethylene—, Pd–catalysed intramol coupling of 8–bromonona–2,8–dienoic ester forming, 4937
2–alkenylcyclohexanols, chiral synth, 6571
4–methylcyclohex–3–eneacetic acid derivs, by rearr of 3–(3–oxobutyl)cyclopentanones, 5581

cyclohex–2–en–1–ones, synth using methoxycyclohexadienyl $Fe(CO)_3^+$ complex, 1291
cyclohex–2–eneacetic acid, 4,5,6–triacetoxy–, synth, 2471
cyclohex–3–ene–1,1–dicarboxylic acid, 2,6,6–trimethyl–, synth, 355
cyclopentenones, spiro–dioxolan linked, synth, 275
methylene–, by [3+3] annulation in , sequential allylation, 843
regioselection in Mitsonobu dehydration of hydroxycyclohexanes, 1209
selenomethyl–halo–, by cyclization unsaturated selenoacetals, 105
trans–1,2–bis(polyoxaalkyl)–, conformation and K^+ ion binding effects, 35

Cyclooctanes
1,4–epoxycyclooctan–2–one, 5,8–diiodo–, conversion into 2,3,6,7–tetrahydrooxepin deriv, 2241
1,5–cyclooctadiene, cycloaddn to hexachloro– and 5,5–dimethoxy–tetrachloro– cyclopentadiene, 3289
fused 1,5–cyclooctadiene by Cope rearr of fused divinyl cyclobutane, 6969

Cyclopentanes
1,2–dimethyl–1–phenyl—, synth from acetophenone dithioacetal, 2509
1,2–dimethylene–, reductive cyclization by SmI_2/ROH/transition metal catalyst of 1,6–diynes, 5559
1,3–bismethylene–, rigidified arachidonic acid analogs, 495
1–ethynyl–1–hydroxy–2–methyl—, by carbocyclization of organo–zinc deriv, 5317
2,2,5,5–cyclopentanecarboxylic acid, by Al–mediated cyclization 1,4–dihalide to arylacetylene, 521
2–(β–amino–α–hydroxyalkyl)—1–carboxylic acid, hydroxyethylene proline dipeptide isosteres, 5857
2–ethoxycyclopentadienes, cyclopentenones, synth from allylidenetriphenylphosphoranes and α–halocarbonyl compounds, 4521
3,4–dihydroxy–1–methylene–, by radical cyclization 6–halo–3,4,5–trioxyhexynes, 2017
3–isopropylidene—1,1–dicarboxylic esters, synth in radical promoted cycloaddn isopropylidene cyclopropane to double bonds, 5765
4–acetoxycyclopent–2–en–1–ol, chiral synth, 2409
chiral synth 3,4–epoxy–2–hydroxyethyl—1–ol, 7055
cyclization, Pd(0)–catalyzed, pent–4–enyl acetic/malonic ester derivs, 1641, 1645
cyclopent–2–en–4–onecarboxylates by photo–rearr of *o*–quinone mono–acetals, 4553
cyclopentanols, 2–cyclopropyl–, stereocontrol in synth, 5733
cyclopropyl cyclopentenes, cyclopentanones, in cyclopropenylcyclopropane synth, 2871
from cyclohexenyl enol ethers using sulfonyl azide, ultrasonic acceleration, 2457
fused – by rearr of cyclobuta–cyclohexane systems, 3069
monomenthyl cyclopentane–1,2–dicarboxylate, *C*–allylation of Li enolate, 4541
Nazarov cyclization of divinyl ketones, theoretical study, 725
Pd–catalysed cyclization 1,5–hexadien–3–ols to 1–methylcyclopenta–1,3–dienes, 4501
polysubst – from sugar lactones, transannular aldol, 6227

Cyclophanes
bis–(1,1′–binaphthyl) –, chiral recognition in naproxen complexation, 6276
bis–diphenyl ether tetracarboxylate, α,ω–dioxapolymethylene–bridged, polyanionic hosts for cationic guests, 7295
dithia[4.4]orthometa–cyclophane, 2117
meta–para— 14–membered lactone formation, 5781
triply bridged, by vinyl group photodimerization, 2367
[3.3] and [4.4]orthopara–, [3.3]orthometa–, dithia[4.4]orthometa–, synth, pmr, conformations, 2117
[3.3]metacyclophanes, charge–transfer dimethoxy–dicyanomethylenequinone *syn* and *anti* isomers, 2215
[6](1,4)–naphthalenophane, [6](1,4)–anthracenophane, cycloaddns with TCNE, DMAD, 359

Cyclopropanation
by diethylzinc/methylene iodide, of isopropenyl ethers, 7219
chiral Rh–catalysed – of olefins by α–styryl–α–diazoacetic esters, 6509
chiral wall porphyrin–Rh–I catalyst for – of olefins, 2445
chiral, by diethylzinc/methylene iodide, of allylic 3,4,6–tri–*O*–benzyl D–glucopyranosides, 7215
diastereosel Pd–catalysed – of αβ–unsat amides of bornane[10,2]sultam, 5625; corrigendum, 7136
of double bond by Sm/$HgCl_2$/$ClCH_2I$ in dihydroxycholecalciferol synth, 2343
of homoallylic alcohols, stereocontrol in 2–cyclopropyl cyclopentanol series, 5733
of isobutene, by benzyloxy–cyanocarbene, 1925
Simmons–Smith and dibromocarbene routes, in cyclopropyl aminoacid synth, 541
sulfoximine and sulfoxonium methods, of αβ–unsaturated *N*–methoxy–*N*–methylamides, 1275
synth chrysanthemic esters using Cu(I) catalysts, 7373

Cyclopropanes
1,1,2,2–tetraaryl–, singlet oxygenation, 3,3,5,5–tetraaryl–1,2–dioxolanes, 7695
1,1,2,2–tetracarbonitriles, 3,3–disubst, electrochem synth, 2655
1–bromo–3–methyl–2–vinyl *cis*–cyclopropane–1,2–dicarboxylic ester from methyl α–bromocrotonate, 4695
1–hydroxy–1–alkyl–, –aryl—, from β–bromosuccinic ester, SmI_2 and Grignard reagent, 7691
(*S*)–1–(2–hydroxyethyl)–2–methylene–, synth from malic acid, 531
1–morpholino–1–(α–benzyliminoalkyl)—, rearr to pyrroles, mech, labelling study, 7127
2,2–bishydroxymethylcyclopropyl carboxylic acid, conversion into carbocyclic nucleoside analogs, 2141
2–hydroxy–, 2–oxo–, 2–hydroperoxy–alkyl—, synth, peroxy–mercuriation, 6953
2–isopropylidenecyclopropane–1,1–dicarboxylic ester, thiyl radical catalysed addn to olefins, 5765
2–methoxy–1,1–dicarboxylic esters, by electro–oxidative synth, 799
2–t–butyl–1,1–dimethyl– from 3–bromo–3–lithio–2,2,4,4–tetramethylpentane, 2951
3–cyclopropylallyl alcohol, rearr to hexa–3,5–dienol system, 2339, 2343
bicyclo[4.1.0]heptan–2–ones, reductive – cleavage with SmI_2, radical and enolate capture, 6211
chiral cyano–, dopants for liquid crystals, 939
cleavage of – ring in bicyclo[3.1.0]hexan–3–one deriv, 5869
cyclopropanols from allyldimethylsilylcyclopropanes, 7513
cyclopropyl ketones, from *N*–methoxy–*N*–methylamides, 1275

cyclopropyl–dihydrofurans, –dihydropyrans from alkynyloxycarbene $Mo(CO)_5$ complexes, 5223
cyclopropylmethylstannanes, electrophilic cleavage, 807
dimethylallylidene—, synth by vinylidenecarbene cycloaddn, 5547
favelanone, naturally occurring tetracyclic fused –, 5555
fused halo—, by halocarbene cycloaddn to cycloalkenes, stereochem, 6105
fused, formation in Pd–catalysed cyclizations, 3855
gem–dibromo–, catalytic (Co, Ni) reductive hydroxycarbonylation, 3349
methylene–, Pd–complexed trimethylenemethanes from, and intramol cycloaddn, 1103
neohalicholactone, x–ray structure, 2427
phenyl–, photochem methanol addns to, 173
silyloxy–, telluration and dehydrotelluration forming enones, 229
vinyl— lactones, rearr by LiI to cyclopentene lactones, 4591

Cyclopropenes
1*H*–cyclopropa[*b*]naphthalene, insertion of benzyne, dichlorocarbene, TCNE, PTAD, 7097
3–(1–cyclopropenyl)indenones, generation, cycloaddns to diphenylisobenzofuran, dimerization, rearr, 4103
cyclopropabenzene, cycloaddn to diphenylisobenzofuran, 593
cyclopropene anion, tris–(1–methyl–4–pyridiniumyl), 601
cyclopropenone acetals, by base cyclization 1,3–dichloroacetone acetals, 1339
methylene—, cycloaddn to nitrile oxide in 10–azatestosterone synth, 6395
tri–(4–pyridyl)cyclopropenyl phenyl sulfone, synth, conversion into hexa–4–pyridylbenzene, 601
[3]radialene and phenolic precursor, 3507

Dealkylation
benzyl, allyl, removal from ethers by $AlCl_3/PhNMe_2$, 1321
demethylation of methylcyclitol by $AlCl_3/I^-$, 5593

Deamination
methoxy–deamination of 7β–amino–3–deacetoxycephalosporanic acid, 3883

Decarbonylation
possible step in vasicine synth, t–butyl α,α–diamino–carboxylate in TFA, 7131

Decarboxylation
2–oxabicyclo[2.2.2]oct–5–en–3–ones, to 1,3–cyclohexadienes, 2549
β–lactone –, forming allene cycloadduct, 7033
oxidative decarboxylation of allyl β–ketoesters, Pd(II)–cat, 1433
Pd–catalysed – of allylic aryl carbonates, synth allyl aryl ethers, 6315

Degradation
bicyclo[3.3.0]octane–3,7–dione to 3,7–dioxabicyclo[3.3.0]octane system, 5999

Dehalogenation
of α–haloketones by $(Me_3Sn)_2Te/F^-$, 1545

Dehydrogenation
dihydro–3(2*H*)–furanones to the furanones by DDQ, 683
hydrogen extrusion from 2,3–bistrimethylsilyl phosphiranes, 6537

Dehydration
regioselection in Mitsonobu dehydration of hydroxycyclohexanes, 1209
tertiary alcohols, – by $BF_3.Et_2O$, 6489

Deoxygenation
α–hydroperoxy–azo compounds, decomposition to dioxygen and hydrazones, steric effects, 4955
α–hydroperoxy–β–diketones to α–hydroxy– by PPh_3, 1471
alkylation and – of 2–lithio–2–triphenylsilyloxirane by trialkylalanes, 2783
hydroxy group removal *via* tin hydride reduction of imidazolylthiocarbonyl deriv, 6507

Diastereoselection
(–)–4–isopropyl–2–oxazolidinone, chiral auxiliary in PhSH addn to αβ–unsat amides, 3519
(*S,S*)–bis–p–toluenesulfinylmethane, reaction with aldehydes, 3695
1,3–dioxolan–4–one from pivalaldehyde acetal and lactic acid, effect of acid catalyst, 1441
1,3–dithiane *trans*–di–oxide anion, addn to aldehydes, 7743
2,4,6,8,10,12–hexamethyl–7–oxotrideca–4,9–dieneds ioate and homologs, synth, 7601
2–arylidene–1–tetralone – $Cr(CO)_3$ complex, Michael addn to, 1085
3,4–dimethyl–5–phenyl–1,2,3–oxathiazolidine 2–oxide, chiral sulfoxides by reaction with organometallics, 5885
3–t–butyl–2,3–dihydro–1,2–benzisothiazole 1,1–dioxide, cycloaddn of nitrile oxides to *N*–acryloyl deriv, 4893
α–aminonitriles, α–aminoacids, Strecker synth with (*R*)–phenylglycinol chiral auxiliary, 7597
addition of cyanide ion to β–hydroxyketones, 5423
addition of Li enolates to chiral αβ–epoxyaldehydes, 5345
addition of methyl–metal reagents to 2–(tetrahydrofuran–2–yl)acetaldehyde, 1937
addition of organometallics to 2–acylperhydropyrrolo[1,2–*c*]oxazoles, 2919
additions to chiral acylketene acetals, 461, 465
aldol reactions, Co–complexed and uncomplexed trimethylsilyl–propynal with *O*–silylketene *O,S*–acetals, 7553
alkylation of 4–ethyl–6,6–dimethyl–3–phenylsulfonylbicyclo[3.1.1]hept–3–en–2–one, 7439
alkylation of chiral binaphthol monocrotonyl esters and analogs, 7281
alkylation of Li enolates of chiral 3–alkanoyl oxazolidinones with bulky substitution, 7715
allylation of chiral OH–protected bis(hydroxymethyl)acetaldehyde, 6939
allylstannanes, chiral, BF_3–promoted reaction with aldehydes, 13
asymmetric α–aminoaldehyde synth from glyoxal chiral monoaminal mono–dimethylhydrazone, 1171
asymmetric alkylations of imide enolates of camphor series oxazolidones, 4959
β–lactams from protected serinal 4–methoxyphenylimine, 3109
β–trimethylsilyl–αβ–epoxy–ketones, reaction with organometallics, 5789
baker's yeast reduction 2–phenylthio–cycloalkenones, 399
catalytic osmylation of 1,3–dienes to 1,2,3,4–tetrols, 1003
chiral allylstannanes, addn to benzaldehyde, 453

chiral Diels–Alder reactions of methyl 2–acryloyl–3,4–*O*–methylene–β–D–arabinoside, 5529
condensation of γ–(trimethylsilyl)allylboranes with aldehydes, 3029
conjugate addn organocuprates to chiral binaphthol monocinnamate, 7277
cycloaddn of cyclopentadiene to menthyl acrylate on alumina, temperature dependence of *endo/exo* ratios and d e values, 2303
cycloaddn of azomethine ylids catalysed by chiral Co(II), Mn(II)–catalysts, 5817
cycloaddn of camphor–derived 3–acyl–2–oxazolones to dienes, 7715
cycloaddns to chiral 3–alkenoyl oxazolidinones with bulky substitution, 7715
diastereosel addn ester enolates to chiral acetals of α–keto–imines, synth β–lactams, 7563
diasterofacial selectivity in nucleophilic epoxidation of γ–oxy–αβ–unsat sulfones, 5393
DIBAL reduction of β–ketosulfoxide, 509
Diels–Alder and Michael addn reactions with pantolactone deriv of 2*H*–pyran–3(6*H*)–one, 7465
Diels–Alder reactions of subst butadienes with *N*–(α–methylbenzyl)maleimide, 5877
dihydroxylation of steroidal αβ–unsat ester using OsO_4/ferricyanide/dihydroquinidine *p*–chlorobenzoate, 6745
divergent stereocontrol in reaction of aldehydes with allylsilanes with asymm ether function, 2383
double – in intramol cycloaddn nitrile oxides to olefins, 4259
epoxidation of asymmetrized 2–alkenyl–1,3–propanediols, 6943
epoxidation of γ–dibenzylamino–αβ–unsat esters, ketones, by t–BuOOH/KOtBu/NH_3/THF, 4477
glycopyranos–1–yl reductive radical quenching, 2565
glycosylation by glycosyl 2–pyridinecarboxylates, activation by Cu(II) (for α–), Sn(II) (for β–) triflates, 7065
Grignard addn to acylsilanes with chirally subst Si atoms, 6801
homoallyl alcohols by addn crotyl–Mo complexes to aldehydes, 1271
hydrogenation, cuprate addn, to 2,3–dihydro–7–methyloxazolo[2,3–*b*]oxazin–5–ones , 597
in cyclization of 1,5–biradicals, steric barriers in, 165
intramol Diels–Alder reactions of quinodimethanes from benzocyclobutene *N*–allylcarboxamides, 5469
Mannich base synth from boron enolates and aminals, 73
methyl 2–thioxo—4–carboxylate, asymm synth of α–hydroxyethyl–β–lactams using, 2577
N–alkyl–2,3–bis(bulky–silyloxy)succinimides, reaction with alkyl, aralkyl Grignards, 3401
N–Boc–statine, synth from *N*–Boc–leucinal, 6783
nitrone cycloaddn to chiral allyl derivs, 1659
organo–Cu addn to $Cr(CO)_3$–complex of *o*–subst phenyl propenyl ketones, 4565
oxidative radical tetracyclization of 2–alkyl–3–oxo–6,10,14–trimethylicosa–6,10,14,19 –tetraenoic ester, 4819
Pd–catalysed cyclopropanation of αβ–unsat amides of bornane[10,2]sultam, 5625; corrigendum, 7136
radical Ph_2SiH_2 addn to chiral olefins, 3683
rearrangement, [2,3]–sigmatropic, of allylsulfonium enolate ylid, 335
reduction α–keto– to α–hydroxyacid, *chiro*–inositol deriv chiral auxiliary, 1335
reduction of α–amino–1–tetralones, 5927
reduction of methylcyclohexanones by bis(2,4,6–triisopropylphenyl)hydroborate, 6243
reduction, reactions with organometallics, of 2,3–epoxy–4–oxo–1–silyloxyalkanes, 6731
secondary alcohol synth using aldehyde dimethyl tartrate acetals, 5453
Sharpless epoxidation of electron–deficient hydroxy–olefins, 2687
stereocontrol in aldol condensations of *N,N*–diethylglycine ester Li enolate by triethylborane, 5521
stereosel BH_4^- reduction of β–ketoester derived from isoleucine, 2395
stereosel ring–opening of macrolide epoxide using *o*–formylbenzoic acid, 7397
synth (2*S*,3*R*)–2–carboxy–3–pyrrolidineacetic acid, 3057
synth atropisomeric 2–arylpyridines, 2943
synth C(11)–C(17) fragment tylonolide, 267
synth girolline, sponge alkaloid, 1419
thiol capture strategy for polypeptide synth, phenoxathiin 10–oxide deriv, 3013
[4+2]–cycloaddns of 1,5–cyclooctadiene adducts to hexachloro– and 5,5–dimethoxy–tetrachlorocyclopentadiene, 3289, 3293
see also Stereoselection, Stereospecificity

Diaziridines, diazirines

3(α–bromobenzyloxy)–3–fluorodiazirine, decomp in MeOH, carbene generation and fragmentation, 5667
3–benzyloxy–3–cyano–, for carbene generation, 1925

Diazo compds

1–diazo–3,3–dimethylhept–5–yn–2–one, Rh–catalysed cyclization to alkynes, with rearr to fused cyclopentadienes, 3755
2,2′–bisdiazomethylbiphenyls, generation, phenanthrenes from, 3025
6–alkoxy–5–diazodihydrouracil, Rh–catalysed and thermal rearrangements, 3799
α–diazo–β–ketoester in carbapenem synth, 1023
α–styryl–α–diazoacetic esters, chiral Rh–catalysed cyclopropanation of olefins, 6509
acyldiazomethanes, oxidn to 1,2–dione monohydrates by dimethyl dioxirane, 6215
alkenynyl diazoketones, Rh–catalysed cyclizations, cyclopropene generation, 4103
chiral α–diazo–β–ketoester, Rh–catalyzed cyclization to bicyclo[3.1.0]hexane, 2339
cycloaddn to As=C bonds, attempted arsirane synth, formn of 1,2,4–diazarsoles, 2755
diazoacetic ester, α–formyl–, Rh–catalysed addn to nitriles, 17
diazomethane, reaction with 7–oxabicyclo[2.2.1]heptan–2–one derivs, 1637
diazomethane, reactions with macrolide FK506 and derivs, 7039
diazonium ions, reactions with dimethylnitronate anion, 5449
diethyl diazomethanephosphonate, for aldehyde to ethynyl group conversion, 2343
diethyl diazophosphonates, Rh–catalysed insertion into O–H bonds, 6947
dimethyl diazomethylphosphonate, condensation with 1,2–diselenolanes, 4189
o–alkynyl–α–diazoacetophenones, Wolff rearrangement with cyclization, 5923
ortho–diazoalkyl–ester group cyclization, Rh–catalysed, in fused 2–ethoxyfuran synth, 1161
phenol–diazonium salt coupling catalysed by cyclodextrins, 5231
phenyldiazomethane, reaction with triflic anhydride, aminium salts, 729

Dienamines
anions of αβ–enal t–butylimines, reaction with Michael acceptors, 4683
intermeds in allyl–Li, –MgBr reaction with benzonitriles, 7393
synth from 1,3–bis(*N*–benzotriazolyl)alkyl t–amines, 3597

Dienediynes
see Diynes

Dienes
(*E*,*E*)–1,4–bistributylstannylbuta–1,3–diene, use in synth diketones containing butadienyl unit, 7211
1,1–bis–p–toluenesulfinyl–1,3–dienes, synth from αβ–unsat aldehydes, 3695
1,3– and 1,5–cyclooctadienes, stereochem of addn of mono–iodo–, bromo–carbenes/oids, 6105
1,3– from methylenecyclopropanes by H transfer, 1103
1,3—2–boronic esters, stereo–, regio–sel synth from α–bromoalkenyl boronic esters and alkenyllithiums; protolysis, peroxidolysis, 3655
1,3–buta–, 1–methoxy–3–trimethylsilyloxy–, cycloaddn to methacrylonitrile, 1921
1,3–cyclohexadiene ring bispiro–fused to hexacyclic birdcage framework, cycloaddns to, 5935, 5939
1,3–dienes by Suzuki reaction with Markovnikov vinylboranes, 2311
1–acetoxy–1,3–, by β–vinylation of vinyl acetate, 1579
1–methoxy–4–trimethylsilyl–1,3–butadiene, synth, reaction with 1,4–naphthoquinone, 2197
1–phenyl–1,3–butadiene, addn to catecholborane, stereosel, enantiosel, with achiral and chiral Rh–phosphine catalysts, 3387
2,3–dialkyl–1,3–butadienes, synth from 1,4–dichloro– or 1,4–di(tosyloxy)–2–butyne, 2865
2,3–dihydro–2,3–dihydroxy–5–vinylfuran acetal, cycloaddn to benzoquinones, 1519
2,3–dimethyl/diphenyl–1,3–, from alkynes by titanium methods, 1687
2,3–disubst buta–1,3–dienes from alkynes by action of iodomethylzinc iodide, 1855
2–ethoxycyclopentadienes, synth from allylidenetriphenylphosphoranes and α–halocarbonyl compounds, 4521
2–nitro–1,3—, synth, cycloaddns, 2517
2–nitro–1,3—, synth, cycloaddn to enol ethers, 5607
2–silyloxy–1,3–, cycloaddn to imines, 491
2–trimethylsilyloxy–1,3–cyclohexadien–5–one cyclic acetal, synth, Diels–Alder adducts, 4011
anodic cyclization of dienes with allylic silane groups, 2307
β–hydroxy–1,3—, synth from anionic ylid, 4353
buta–2,3–dienyltrimethylsilane in synth 2–(α–hydroxyalkyl)–1,3–butadienes, 4509
butadiene, 1–methoxy–, asymm cycloaddn to methyl glyoxylate, 935
butadiene, isoprene, cycloaddn to β–nitrostyrene, 1695
complexes with iron tricarbonyl, rection with hydridosilanes, 7047
cyclobutadiene–1,2–dicarboxylate, cycloaddn to bridged naphthoquinones, anthraquinones, 4989
cyclohexa–1,3–diene, fused, by intramol nucleophilic addn to benzene ring, 1299
cyclopenta–, 1,3–cyclohexa—, cycloaddn of glyoxylic acid in water, synth α–hydroxy–γ–lactones, 7529
cyclopenta–, PTC–alkylations, SET mechanism, 5773
cyclopentadiene, condensation with formaldehyde and aromatic amines, 7099, 7103
diene alcohols, by reduction enynols by Zn, 299
dienol carbamates, Ru–catalysed synth from enynes, R_2NH and CO_2, 7409
dienyl β–ketoesters, synth by carbopalladation of allenes, 1795
dimorphecolic ester, synth geometrical isomers by Pd–catalysed coupling vinylzinc to vinyl iodide systems, 3701
ethoxycarbonyl–1,3—, synth by Pd(II)–catalysed β–ketoester enol triflate coupling to alkenylstannanes, 6675
fluoro–, from bromo–fluoroalkenes, acetylenes with $Pd(OAc)_2$, 69
hexachloro– and 5,5–dimethoxy–tetrachloro–cyclopentadiene, cycloaddn to 1,5–cyclooctadiene, 3289, to 5,6–*endo*–fused cyclooctenes, 3293
hydrochlorination of 1,3–butadiene by surfaces, 3461
intermediate dienynes by Pd–catalysed coupling, in synth of benzene rings, 4167
intramol cycloaddn to acylnitroso group, 4325
N,*N*–dimethyl 5–(mono– or disubst) 4–(*o*–methoxyphenoxy)–penta–2,4–dienamide, synth from 1,4–benzodioxin, 5525
Pd–catalysed cyclization 1,5–hexadien–3–ols to 1–methylcyclopenta–1,3–dienes, 4501
penta–2,4–dienylimino–triphenylphosphorane, reactions with ketenes and arylacetyl halides, rearrangements and Ph_3P–transfer, 4041
ring A and enyne part of ring B of neocarzinostatin chromophore, synth by Pd–catalysed cyclization, 5243
singlet oxygenation of t–butyldimethylsilyl cyclohepta–3,5–dien–1–yl ether, 2597
stereochemistry of – from thermal ring–opening of 3,4–*cis*–disubst cyclobutenes, 2953
subst butadienes, cycloaddn to *N*–(α–methylbenzyl)maleimide, 5877
tetra–t–butylcyclobutadiene, intermediate in tetrahedrane synth, 57
theoretical study of CH–π–system interaction in 5–isopropylcyclohexa–1,3–diene (α–phellandrene), 6587
toluene, 1,2–dihydro–1,2–dihydroxy–, oxidation, 1671
trimethylsilyl–1,3–dienes, by vinylborane–vinyl bromide cross–coupling, 43

Dimerisation
(2 + 2) cyclo— of a 1,3–diene, 551

Dienones
(–)–α–santonin, reductive cleavage lactone ring forming dienone acid by PhS^- or $PhSe^-$, 3413
2–acyl–1,3–dienes, reduction by $LiAlH(OMe)_3$ to βγ–enones, 4453
di–(alka–1,3–dienyl) ketones, by isomern of dialkynyl ketones with $IrH_5(iPr_3P)_2$, 7549
3–ethenyl–4–methoxycyclobutene–1,2–dione, conjugate addn cuprates, thiolates, 1129
4–hydroxycyclohexa–2,5–dien–4–ones, dihalo–, verongiaquinols, synth by anodic oxidation of phenols, 4039
4–spiro–cyclohexa–2,5–dien–1–one system, synth by anodic oxidation, 4151
αβ:γδ–, by modified Knoevenagel condn αβ–unsat aldehydes with MeCOR enolates, 1791
cyclohexa–2,4–dienones by Wessely oxidation, homo–twistanes, –isotwistanes, from, 4439
cyclohexa–2,5— 4–spiro–γ–lactones, synth and bis–epoxidation, 6613
cyclohexa–2,5–dienone, 4–cyano–4–methyl–, synth, rearr, 1921
spiro[5.5]undeca–2,4–dien–1–ones, spiro[[4.5]deca–7,9–dien–6–ones, by electrochem oxidation of alk–4–enylphenols, 4973

steroidal 3–oxo–1,4–dienes, ring–A–aromatic 9,10–secosteroids by radical induced cleavage, 7247

Diols and Triols
(3*S*,8*S*)–(–)–4,6–decadiyne–1,3,8–triol, enantiocontrolled synth, 2797
(*S*,*S*)–1,2;3,4–diepoxybutane, synth, chiral glycols from, 883
1,2– and 1,3–diols, mono–protection *via* acetonides, 1–methylcyclopropyl ethers, 7219
1,2—, stereosel synth brassinolide side–chain, 4817
1,2–diol diacetates, from aldehydes and ketones, $BrCH_2OCOMe$ and SmI_2, 2433
1,2–diol periodate cleavage in 2,3,6,7–tetrahydrooxepin deriv synth, 2241
1,2–protected 1,2,3–triols, enantiosel synth, 5899
1,3,5–pentanetriols, chiral spiroacetals from, 1219
1,3,7–, 1,3,8–, 1,4,9–triols, phenylthio group migration in cyclodehydration, 5409
1,3–diols, 1–cyano–, diastereosel synth, 5423
2,5–dimethylcyclohexane–2,3,5–triol, enantiosel synths, 3527
2–alkenyl–1,3–propanediols, asymmetrized, stereosel epoxidation, 6943
2*E*,3*E*,4*Z*–trihydroxy–1,2,3,4–tetrahydrobenzoic ester, synth, 5295
3,4–epoxy–1,2–propanediol, conversion into lipoxins, 1165
3,5–dihydroxyhexanoate esters, synth of each enantiomer, 7699
3–hydroxy–2–hydroxymethylcyclohexenyl phenyl sulfone, synth *via* epoxides, 2861
4–dimethylamino–2,3–dihydroxy–5–methoxypentanoic acid, stereosel synth calyculin fragment, 5983
6–cycloheptene–1,3,5–triol, enantiosel synth by enzymic asymmetrization, 2597
6–*O*–acylcastanospermine, acyl migration between adjacent OH groups, 4669
6–phenylthio–alk–3–ene–1,5–diols, 3–(diphenylphosphinyl)alk–5–ene–1,4–diols, 3–(diphenylphosphinyl)–6–phenylthioalkane–1,4,5 –triols, stereosel synths, 7123
9,12,13–trihydroxyoctadeca–10–enoic acid, synth from tri–*O*–acetyl–D–glucal, 4909
asymmm synth 1,2,3–triol fragment aspicilin, 509
bengamide E side–chain, trihydroxy–methoxy acid synth, 1063
bis(hydroxymethyl)acetaldehyde, asymm induction in allylation to 2–hydroxymethylhex–5–ene–1,3–diol derivs, 6939
but–3–yne–1,2–diol, synth and protection, 7357
chiral 1,4–diols, synth *via* butenolides, 371
cis–1,2–diols by pinacol cyclization 1,5/6–dials with SmI_2, 1125
cyclobutane–1,3–diols, fused, ring–cleavage to enones, 6011
cyclohex–4–ene–1,2,3–triol derivs in (+)–lycoridine synth, 4525
enzymic synth both enantiomers of *cis*–4–acetoxycyclohex–2–en–1–ol, 3941
glycol periodate cleavage in chrysanthemonitrile synth, 2637
meso–*syn*–1,9–bistrimethylsilylnona–1,8–diyne–3,5 ,7–triol, 2219
methyl (*Z*)–2,3,4,5–tetrahydro–3,5–dihydroxy–3–(trimeth ylsilylethynyl)benzoate, doxorubicin ring A precursor, 1707
musclides, aliphatic 1,4–diol mono–hydrogen sulfates, 1733
octane–1,2,3–triol, Sharpless epoxidation in chiral synth, 1649
pent–4–ene–1,2,3–triol and 5–phenyl analog, synth from glucose, 4831
photocatalysed decomp of 1,2–diols by a water–soluble Fe(III) porphyrin, 4007
quinoline–5,6–diols, absolute configuration of quinoline oxygenase products, 2963
selective OH functionalization in 1–deoxynojirimycin deriv using dibutyltin oxide, 5691
stereochem of addn of allylboronic esters to α–hydroxyketones, 1945
syn–1,3–diols, alkynyl–, stereosel reduction of β–hydroxyketones by DIBAL–H, 2219, 2223
synth 1,4–diols via tetrahydroboroles, diastereoselective synth, 1479
tris(hydroxymethyl)methane, asymmetrised, in synth fragment tylonolide, 267
see also Cyclitols, Glycerol, Shikimic acid and analogs

Diones
1,2— monohydrates, synth by oxidn α–diazoketones by dimethyl dioxirane, 6215
1,3–cyclohexanediones to resorcinol mono–Me ethers by I_2/MeOH, 3441
1,5—, Vilsmeier–Haack reagent in synth of 4*H*–pyran–3–aldehydes, 3235
2–acyl–α–tetralones, oxidation by $^1O_2$, 1471
3–methylcyclopent–3–ene–1,2–dione, Lewis–acid catalysed addn to 3,4–dihydro–6–methoxy–1–vinylnaphthalene, 3357
5–ene–1,4–diones, synth by hydrolysis of cycloadducts of 2–nitro–1,3–dienes with enol ethers, 5607
α–formylcyclopentanone, dienediynes from *via* bis–enol triflate, 1449, 1453
β–diketones, $Mn(OAc)_3$–promoted addns to cyclic enol ethers, 7107
dienyl–diketones from enones and (*E*,*E*)–buta–1,3–dienyl 1,4–biscuprates, 7211
enediones by $[RhCl(C_2H_4)_2]_2$–$SnCl_2$–catalysed reaction vinyl ketones with allyl acetone, 1077

Dioxanes
bis–1,4–dioxan–2–ones, double rearr to bis–3,6–dihydro–2*H*–pyran, in erythronolide fragment synth, 3957, in halichondrin fragment, 3961
plakortolide, 1,2— lactone from sponge, 7167

Dioxetanes
competitive rearr and deoxygenation of hindered perepoxide, 863
spiroadamantane–1,2–, by electron–transfer oxidation of olefin, 117

Dioxiranes
dimethyl–, decomplexation of arene chromium tricarbonyls by, 5629
dimethyl–, flavone epoxidation, 1041
dimethyl–, for epoxidation of 1,2–dialkoxyethylenes, 1295
dimethyl–, for oxidn of acyldiazomethanes to 1,2–dione monohydrates, 6215
dimethyl–, for *S*(1)–oxidation of 1,2–dithiolan–3–ones, 6625
dimethyl–, oxidation of enolates to α–hydroxyketones, 715
dimethyl–, oxidation of phenols to *o*–quinone *via* catechols, 5441, and of 2,6–di–t–butylphenol to *p*–quinone, 5445
dimethyl— epoxidation of 6,6–disubst fulvenes, 6697
methyl trifluoromethyl –, oxidation of catechol to (*Z*,*Z*)–muconic acid, of 2,6–di–t–butylphenol to *p*–quinone, 5445
oxidation amino to hydroxylamino group by, 1851
oxidation of bis(phenylthio)acetylene to disulfone, 2177
steroid epoxidation and alcohol oxidation by, 533

Dioxolanes
1,2–, from reaction of $^1O_2$ with allylic–SnR_3 compds, 1745
2,2–dimethyl–4–carboxylic ester, aldehyde condensation, cyclopentenone spiro–attachment, 275
2–hydroxymethyl–1,3—4–yl as thymidine sugar residue, from 1,6–anhydro–D–mannose, 3791
3,3,5,5–tetraaryl–1,2— by singlet oxygenation of 1,1,2,2–tetraarylcyclopropanes, 7695
3,5–dialkyl–1,2—, synth *via* hydroperoxyalkyl cyclopropanes, 6953
cis–trans ratios of 2,5–dialkyl 1,3–dioxolan–4–ones, 1441

Disulfides
di–2–pyridyl – and triphenylphosphine, coupling of nucleoside–5′–phosphates to form P^1,P^2–dinucleoside–5′–pyrophosphates, 6065
triphenylmethyl chlorodisulfane, with dimethylbutadiene forming 1,2–dithiin and 1,2,3,4–tetrathiocin derivs, 7651

Dithianes
1,3— *trans*–dioxide anion, stereosel addn to aldehydes, 7743
1,3—, triphenylpyrylium ion sensitized s.e.t. reactions, 4349
2–lithio–2–methylthio–1,3—, addn to 3–ethoxy–2–methylpropenal, 6329
deprotection of 1,3— derivs by one–electron transfer to $SbCl_5$, 7421
epimerization of 2–methylthiophosphonio–1,3—, dissociative mech studied by crossover expts and isotope effects, 7329

Dithiols
1,3–propanedithiol reduction of α–azido–*o*–aroylanilides, 5493

Diynes
(3*S*,8*S*)–(–)–4,6–decadiyne–1,3,8–triol, enantiocontrolled synth, 2797
(*Z*)–enediynes, *via* stannylcupration of acetylenes, 6085
1–ethynyl–3,4–dihydro–6–(3–oxo–1–butynyl)fulvene , monocyclic dienediyne, reaction with thioglycollate, mech for incorporation of methoxide, 4863
1–phenylpenta–1,3–diyne, photocycloaddn of olefins, 6719
2*H*–3,4,7,8–tetradehydro–9,10–dihydrothiecin, synth, cryst structure, 4363
bicyclo[7.3.1]trideca–2,6–diyn–13–one, reaction, intramol, in synth 3679
calicheamicin, enediyne antibiotic, kinetics of reaction with aminoethanethiol, 4635
cyclodec– and cycloundec–4–en–2,6–diyn–1–ol, synth by acetylide–aldehyde cyclization, 3171
descarbamoylcalcheamicinone, enantiomerically homogeneous intermediates towards, 6667, 6671
dienediynes, neocarzinostatin–type, synth by Pd–catalysed coupling, 1449, 1453
di–, tri–, tetra–subst hex–3–en–1,5–diynes by Pd–catalysed cross–coupling, 3329
dialkynyl ketones, isomern to di(alka–1,3–dienyl) and alkynyl alka–1,3–dienyl ketones, 7549
neocarzinostatin chromophore by Pd–catalysed coupling dienol triflates, 3405
reductive rearr dynemycin A to dynemycin H, 6007

Drugs
(±)–ibuprofen, synth from *p*–xylene *via* superbase metalation, 3369
barbiturates, mono–*N*–subst, enzyme–mediated enantiosel synth, 6763
chiral synth (+) and (–)–trihexiphenidyl, 2919
prodrug, cephalosporin nitrogen mustard carbamate for antibody directed therapy, 3269
tomoxetine, fluoxetine, antidepressants, chemoenzymic enantiosel synth, 1901

Dyes
fluoromethine– and fluoroalkyl–quinoline and benzimidazole cyanines, 4595
infrared–absorbing [3]radialene, 3507
Rose Bengal and derivs, photofragmentation of 2–morpholino–1,2–diphenylethanol, 7507

Eicosanoids
12(*R*)–HETE, tetranor–12(*R*)–HETE, 13(*R*)–HODE synth from methyl 2–deoxy–D–riboside, 2515
didemnilactone, neodidemnilactone, 8,9–dihydroxyeicosa–5,10,12,14(17)–tetra(penta) enoic acid 9–*O*–lactone, from tunicate *Didemnum moseleyi*, 5127
lipoxins LXA_4, LXB_4, synth from D–isoascorbic acid, 1165
rigidified arachidonic acid analogs *via* Julia olefination, 495
synthesis (11*R*,12*S*)–diHETE *via* $Fe(CO)_3$–complexed trienyne, 635
see also Leukotrienes, Prostacyclins, Prostaglandins, Prostanoids

Electric conductors, organic
1,1′,4,4′–tetrathia–, –tetraselena–fulvalenes, sulfenylation, selenenylation, 2741
1,2– and 1,4–di–, and 1,2,4,5–tetra–(1,3–dithiol–2–ylidenemethyl)benzenes, synth, cyclic voltammetry, 2897

Electrochemical reactions
2,3–diarylbenzofurans, anodic oxidation, cyclic voltammetry, 4913
2–(dialkylaminomethyl) 1,1′,4,4′–tetrathiafulvalene, cyclic voltammetry, 6407
amphoteric electrochemistry of dihydrothiophenediylidene–extended trisbenzoquinocyclopropane, 3507
anodic oxidation for synth 4–spiro–cyclohexa–2,5–dien–1–one system, 4151
anodic oxidation in tetracyanocyclopropane synth from malononitrile and ketones, 2655
anodic oxidation of alk–4–enylphenols, spiro–dienones, 4973
anodic oxidation of dihalophenols to quinols, 4039
anodic oxidation of quinol methyl allyl ethers, 7591
anodic trimerization of catechol diethers, formation of mixed trimers with one and two benzo–crown polyether systems, 7405
benzimidazole formation by electrooxidation of *N*–(*p*–methoxyphenyl)–*N*′–aryl trifluoroacetamidine, 5981
cathodic coupling halofluoro–compounds with aldehydes, products of further reduction, 6567
cathodic deacetylation of *N*–acetyl–4–piperidones, 3873
cathodic detosylation of tosylmethyl isocyanide derivs, 5539
cathodic isomerisation 2,3–epoxypropyl sulfides/sulfoxides/sulfones to 3–hydroxyprop–1–enyl compds, 1099
cathodic reduction of 1,2–bis(alkylsulfonyl)benzenes, radical desulfonylation, 2481
cyclic voltammetry per(alkylthio) derivs linear tetrathiadibenzofulvalene, 479
electro–induced $S_{RN}1$ of 2,6–di–t–butyl phenoxide into *p*–chlorophenyl sulfones, 6705
electrochemically induced $S_{RN}1$ of aryl halides by pyrrole anions, 6121

electron transfers from tetrathiafulvalene extended through anthracene 9,10–positions, cyclic voltammetry, 6029
electroreduction 5–nitrofurfural acylhydrazones to aminofuran derivs, 631
electroreductive alkylation of cycloheptatrienes, 1051
intramolecular anodic olefin coupling with allylsilanes, 2307
oxidation of alkylidenemalonates to dimethyl acetals of β–ketoalkyl malonic esters, 799
oxidation of chiral 1,4–dihydroquinoline, –pyridine amides, 1475
pinacol–type cross–coupling *O*–methyl oximes with ketones, 525
reduction 4*H*–thiazine esters to pyrrole esters, 2225
tetrathiafulvalenes annulated with 1,4–dithiepin–6–one rings, cyclic voltammetry, 6033

Electron spin resonance
2,3,6,7,10,11–hexakis(hexylthio)triphenylene, radical cation with S–S 3–electron bond, 6195
3,4–di–*O*–cyclopentylidene–3,4,5–trihydroxypiperidine–1–oxyl, spectrum, 4129
9–decalyl radical, spin splitting constants, g–factor, assigned to *trans* isomer, 5385
bis–nitroxide from trapping 2–isopropylidenecyclopentane–1,3–diyl by nitrone, 3711
detection of nitroalkane radical anion in oxidative hydroxide ion addn to nitroalkenes, 2285
dipolar splitting in bi–nitroxide, frozen solution spectra modified by thiourea, 2021
tris(trimethylsilyl)silyl radical adduct to ketones, radical conformation, 6097

Electron transfer
photofragmentation of 2–morpholino–1,2–diphenylethanol by Rose Bengal and derivs, – mech, 7507
rate constants for – between biferrocenyl polyether and glucose oxidase, 5063

Electronic effect
inductive charge dispersal in solvolysis of 3–subst 1–bromobicyclo[1.1.1]pentanes, 5945

Electronic spectra
2,3,6,7,10,11–hexakis(hexylthio)triphenylene, radical cation with S–S 3–electron bond, 6195
diatropic azuleno–annulene cations, 655
extended quinonedimethides of thienoacenes, 4367
inter–ring bridged triarylboranes and congeners, 6363
Soret bands in water–sol tetrakis–quaternary porphyrins, 3453
spectrum into near–infrared of dihydrothiophenediylidene–extended trisbenzoquinocyclopropane, 3507
vis/uv – of circumanthracene, 5227
visible spectrum of transient pyridinium phenyl–trimethylsilyloxy–methylide, 4443
[3.3]metacyclophane, dimethoxy–dicyanomethylenequinone *syn* and *anti* isomers, CT interactions, 2215

Elimination reactions
3–chloro–4,4,4–trifluorobut–2–en–1–al, deformylation with –, 3071
α–acetoxy–sulfone to olefin by Na–Hg, 3409
aryl sec enaminone dianions, β–arylethynyl ketones by Me_3SiCl, 7091
benzaldehyde formed in radical elimination of benzyloxy group, 2017
from 1,2–bis(arenesulfonylalkanes by $SmI_2/(Me_2N)_3PO$, 1949
ketene acetals by PTC from bromoacetaldehyde acetals, 1539
olefins by 1,2— of Ph_2PO/OH using NaH/DMF, 4171
one–carbon – from retinals by MnO_2, 1933
regiochemistry of – of methanol from 3–methoxycyclohexene, gas–phase flowing afterglow study, 4077
regioselection in Mitsonobu dehydration of hydroxycyclohexanes, 1209

Enals
2,3–dihydrobenzaldehydes, synth from prenal enolates and enals, 4495, 4499
αβ— and aldehydes, synth of furans from *via* arsoniosilylation, 2913
β–chloro–β–(trifluoromethyl)–, deformylation with elimination, 3071
β–chloro–trifluoromethylacroleins *via* Vilsmeier formylation trifluoromethyl ketones, 643
β–iodo–, synth, addn of Grignard reagents, 5229
enantiosel intramol cycloaddn of nitrones from 5–alkenals and chiral hydroxylamines, 4431
pyridiniosilylation by trimethylsilyl triflate and pyridine, 2043
vinylsilanes from, using $(Me_3Si)_3Al.Et_2O$, 855

Enamides
N–(α–bromoacyl) enamines, synth of β–lactams by $HSnBu_3$ cyclization, 2335
N–vinylic α–chloroacetamides, cyclization by Bu_3SnH, 1725

Enamines
aryl sec enaminone dianions, elim by Me_3SiCl to β–arylethynyl ketones, 7091
deoxybenzoin –, by cond benzylideneaniline with *N*–benzyl t–amines, 1617
lithio–enamines of β–ketoesters, asymmetric benzoyloxylation, 5899
N,N–dimethyl–β–(2–pyridinecarbonyl)–, intermediate in terpyridine synth, 1999
photocyclization of β–anilinoacrylic ester deriv to indoline, 6129

Enamino esters
cyclic, synth nitro–bicyclo[3.n.1] alkanone systems from, using 2–nitro–3–pivaloyloxypropene, 2319

Enantiocontrol
antiparallel double repulsion giving – in reactions on diacetone–D–glucose template, 5801
asymm polyene synth using acyclic iron tricarbonyl complexes, 5265
synth L–arcanose, L–olivomycose, 4513

Enantiomeric purity
Mosher's acid chloride, micro–scale prep, 7165
of alcohols, determination by *meso/dl* silyl acetal formation, 3651

Enantioselectivity
(+)–magydardienediol, (+)–magydartrienol, diterpenoids, synth, 7567
1–mesityl–2,2,2–trifluoroethyl esters of αβ–unsat acids for chiral Diels–Alder reactions, 6839
2,4–dideoxyhexoses, synth of all stereoisomers, 3931
5(*R*)–8a(*S*)–oxazolo[3,4–*a*]pyridin–3–one, perhydro–5–mercapto–, synth from L–lysine, addn to αβ–unsat esters, 6723
α–arylethylamines, synth from ketones, 7175
acylation of β–hydroxyalkyl diphenyl phosphines using rabbit gastric lipase, 5959

aldol condensations using camphor–derived oxazolidone boron chelate, 5563
alkylation of glycine deriv of camphor–derived sultam, 6547
alkylation of Li enolate of 1–propanoyl–2,3–di(benzylmethyl)aziridine, 2533
alkylzinc reactions with (+)–*trans*–2–phenylcyclohexyl phenylglyoxylate, 3417
allylboration of dec–3–ynal and its $Co_2(CO)_6$ complexes, reversal of –, Pauson–Khand reactions, 6285
allylcopper reagents, reaction with chiral imines, 1367
amine addn to aryl ethynyl sulfoxides, tetrahydroisoquinoline synth, 6861
asymmetric benzoyloxylation *via* lithio–enamines of β–ketoesters using (*S*)–valine t–butyl ester, 5899
asymmetric hydroxylation β–ketoester enolates by camphorsulfonyl oxaziridines, 867
asymmetric induction in radical addn to vinylphosphine *P*–oxides, 3265
asymmetrization of 2,3,4–tri–*O*–benzylpentitols by *Candida cylindracea* lipase, 5701
baker's yeast catalysed chiral β–amination of cinnamic esters, improved e.e. in presence of β–cyclodextrin, 6611
baker's yeast reduction 2–phenylthio– cyclic ketones, 399
buta–2,3–dienyltrimethylsilane, reaction with chiral acetals, synth chiral 2–(α–hydroxyalkyl)–1,3–butadienes, 4509
catalytic hihydroxylation of olefins using 9–*O*–arylated dihydroquinine and analogs, 5761
catalytic OsO_4/NMO hydroxylation with quinine copolymer, 5175
chemoenzymic synth (*R*)–tomoxetine, (*R*)– and (*S*)–fluoxetine, 1901
chiral (salen)Mn(III) complex for epoxidation, 6533
chiral 2–*p*–tolylsulfinyl cyclohexanones and cyclopentanones, reaction with $AlMe_3$, 3191
chiral α–hydroxyesters auxiliaries in cyclopropanation of olefins, 6409
chiral acylation of bishydroxymethylsilane using lipase, 6325
chiral cyanohydrins by Et_2AlCN addn to chiral β–ketosulfoxides, 3195
chiral Lewis–acid–catalysed Diels–Alder reactions of β–pinene–derived keto–ester, 2005
chiral lithiation/alkylation of formamidine derivs of tetrahydroisoquinolines, 5501, mech of enantioface differentiation, 5509
chiral reduction β,δ–diketoesters with Ru–binap, asymm synth 6–methyl–5,6–dihydropyran–2–one, 7699
chiral spiroacetals from 1,3,5–pentanetriols and (–)–menthone, enantiodifferentiating protection, 1219
conjugate addn diethylzinc to enones in presence chiral catalyst, 95
cycloaddn of azomethine ylids from isatin and sec–α–aminoacids to menthyl acrylate, 5417
cyclopropanation of olefins using chiral wall porphyrin–Rh–I catalyst, 2445
Diels–Alder reactions of toluenesulfinylmaleate esters, 947
enantiosel boron hydride – acetylmesitylene, trifluoroacetylmesitylene, 6835
enantiosel epoxidation of (*E*)–2,5–dihydroxy–2,5–dimethylhex–3–ene, 3527
enantiosel synths of macrodiolides (–)–(*R,R,R*)–colletallol, 1495, and pyrenophorol, 1499
enzyme–catalysed synth (*R*)–ketone cyanohydrins, 2605
enzymic acylation of 2– and 3–hydroxymethylpiperidines, 4197
enzymic acylation of racemic 2–amino–β–lactam deriv, 1621
enzymic synth both enantiomers of *cis*–4–acetoxycyclohex–2–en–1–ol, 3941
epoxidation of olefins by PhIO, chiral (salen)Mn(III) catalysts, 1055
hetero–Diels–Alder synth catalysed by Ti(IV) complex of (*R*)–1,1′–binaphthalene–2,2′–diol, 935
hydrogen–bonding association between *N*–benzyloxycarbonyl–L–glutamic acid and 2,2′–(6–methylpyridine–2–aminocarbonyl)–9,9′–spirobifluorene, 5309
hydrogenation using chiral Rh(I) complex, 4745
hydroxyalkylation *via* boron enolate, 1,3–dipropionyl *trans*–hexahydrobenzimidazol–2–one, bifunctional chiral auxiliary, 4787
hydroxylation of 2–ethyl–5–methoxy–1–tetralone enolate by (+)–dichlorocamphorylsulfonyl oxaziridine, 7671
intramol cycloaddn of nitrones from 5–alkenals and chiral hydroxylamines, 4431
Katsuki–Sharpless epoxidation in chrysanthemic acid precursor synth, 2637
ketone reduction using *B*–chlorodi(iso–2–ethylapopinocampheyl)borane, 6691
kinetic resolution by decomp of 2,3–epoxy alcohols by chiral Ti(IV) catalyst, 3547
Lewis acid catalysed cycloaddn acryloyl threitol derivs to cyclopentadiene, 7043
lipase mono–hydrolysis of bis(acetoxymethyl) 4–(*m*–nitrophenyl)–1,4–dihydropyridine–3,5–dicarboxylate, 3465
lipase–catalysed acylation of α–hydroxyalkyl stannanes, 5683
methyl (3*S*,4*S*)–statine, cyclohexylstatine, γ–amino–β–hydroxyesters, 3523
microbial oxidation and reduction 7–benzyloxybicyclo[2.2.1]hept–5–en–2–one, 499
Mn(III)salen catalysed epoxidation of 2,2–dimethylchromenes, 5055
mono–deacylation by pig pancreatic lipase of *cis*–1,4–diacyloxy–2–butene 2,3–epoxide, 3043
N,N–dibenzyl–α–aminoaldehydes, reaction with alkoxytitanium homoenolates, 233
N–methylephedrine and analogs, Li–salts promoting addn of 1–alkenylzinc bromides to aldehydes, 5777
origin of – in chiral Ti(IV)–catalysed Diels–Alder reactions, 6289
prostanoid intermediate, chiral Al catalyst in Diels–Alder synth, 7517
protonation of ketone enolates by chiral alcohols, 4729
radical addn to αβ–unsaturated amides, 707
rearrangements of allylic enol ethers from 1–fluoroacetyl–2,5–dimethylpyrrolidine, 4267
reduction of α–keto–esters by baker's yeast in benzene, 7075
reduction of β–ketoesters using BINAP–Ru catalyst at 50 psi, 4227
reduction of citronellal by baker's yeast, 2643
reduction of cyclohexenone spiroacetal by BH_3, CBS method, 5025
reductive alkylation of *N*–(2–methoxy–1–naphthoyl)prolinol, 2621
Reformatsky reactions with (+)–*trans*–2–phenylcyclohexyl bromoacetate, 3417
Rh–catalyzed cyclization chiral α–diazo–β–ketoester to bicyclo[3.1.0]hexane, *exo*–3–hydroxy–*exo*–3–(α–naphthyl)bornane chiral auxiliary, 2339
Ritter reactions with episulfonium ion intermediates, 4317
synth (–)–solenopsin B, piperidine alkaloid from fire ant, 4159
synth α–halomethyl–, α–hydroxymethyl–, α–(1,2,4–triazolylmethyl)– epoxides, 7545

synth α–hydroxy–aldehydes, –acids and derivs, from chiral allenyl alcohols, 5713
synth chiral glycidic esters using boron methodology, 2857
synth chrysanthemic and related esters using chiral Cu(I) catalysts, 7373
synth lignan eudesmin by addn dithioacetal anion to (*S*)–5–menthyloxy–2(5*H*)–furanone, 3239
synth of chiral β–lactam *N*–acetic acid, Me ester, 5187
synth tirandamycin A, aldol reaction with chiral borate enol ester, 1749
synth *trans*–2,3–di(hydroxymethyl)cyclobutanone, [2+2]cycloaddn ketene dimethyl acetal to dimenthyl fumarate, 6997
synthesis 1,2,6,7,12,12b–hexahydroindolo[2,3–*a*]quinolizi nes, 3981
synthesis C(10)–C(20) fragment of FK506, 53
synthesis of girolline using Evans oxazolidinone chiral auxiliary, 4905
two–phase asymmetric dihydroxylation of olefins by OsO_4/dihydroquinine/$K_3Fe(CN)_6$, 3965
[3,3]–sigmatropic rearr of *O*–cinnamyl *S*–methyl xanthate in β–cyclodextrin complex, 7557
see also Asymmetric induction

Enantiospecificity
(*S,S*)–1,2;3,4–diepoxybutane, synth, chiral glycols from, 883
4–dimethylamino–2,3–dihydroxy–5–methoxypentanoic acid, synth from isopropylidene *N*–Boc serinal, 6977
cyclic sulfates, conversion into chiral imidazolines, 999
epoxyalcohols, chiral synth from 2–deoxy–D–ribose, 363
Lewis acid promoted aldol reactions *N*–propionylsultam silyl enolate, 61
synth (–)–(3*S*,4*S*)–4–methyl–3–heptanol, beetle aggregation pheromone, 5159
synth (*S*)–1–(2–hydroxyethyl)–2–methylenecyclopropane from malic acid, 531
transketolase in synth (+)–*exo*–brevicomin, 4835
2,3–dimethylbut–2–ene with *N*–phenyl–1,2,4–triazoline–3,5–dione, product dichotomy, 2667
β–pinene/methyl acrylate, MNDO calc of Lewis acid effectiveness, 3837

Ene reactions
cis–effect in photo–oxygenation of 2–alkenyl–2–oxazolines, 1957
evidence for perepoxide intermediate in singlet oxygen reaction with αβ–unsat esters, 7321
imino–, in pyrolysis of cocaine, 4405
reactions *via* charge–separated species between $(CF_3)_2C{=}C(CN)_2$ and olefins, 1875
thionitrosobenzenes with 2,3–dimethylbuta–1,3–diene, 7459

Enediynes
see Diynes

Enolates
α–haloester –, aziridines from silyl imines and, 121
acetaldehyde Li–enolate, MNDO study of addn to acrolein, 823
alkylation of Li – of 1–propanoyl–2,3–di(benzylmethyl)aziridine, 2533
amide –, enantiosel amination, 2663
β–ketoanilide silyl –, cyclization to 3–acyl–3–alkyloxindoles, 6993
β–ketoester –, asymmetric hydroxylation by oxaziridines, 867
boron and tin –, in [2,3]–Wittig rearr of allyloxyacetates, 4647
boron enolates in diastereoselective Mannich base synth, 73
chiral boron t–butyl thioester – in enantiosel synth β–amino–esters and β–lactams, 5287
ester –, condn with *N*–arylaminoacid *N*–carboxy–anhydrides, γ–amino–β–ketoesters, 3115
ester –, Li, Na, Zn, Ti, diastereosel addn to chiral acetals of α–keto–imines, synth β–lactams, 7563
fluorination of by *N*–fluorosultam, 1779
from enol esters and MeLi, synth of 3′–subst 2–oxo–nucleosides, 777
ketone –, enantiosel protonation of by chiral alcohols, 4729
ketone Li enolates, $LiClO_4$ catalysed addn to epoxides, synth γ–hydroxyketones, 7583
Li enolate of monomenthyl cyclopentane–1,2–dicarboxylate, *C*–allylation, 4541
lithium – of prenal, γ–condn with aldehydes, 4495; retinal from β–ionylideneacetone, 4499
lithium –, addn to chiral αβ–epoxyaldehydes, 5345
lithium –, boronate ate complexes intermed in alkylations, 1503
lithium ester –, addn to aromatic aldehydes in soln and solid phase, 1535
magnesium – of α–haloketones, generation, trapping, 5599
N,O–dimethylacetamide Li –, addn to C=O compds, 2525
oxidation by dioxirane to α–hydroxyketones, 715
perfluoroalkyl–, synth, reactions, 4953
pinacolone dibutylboron –, substituent effects in aldol reactions with benzaldehydes, 5239
silyl –, α–alkoxyalkylation by acetals using $Me_3SiOCOCF_3$, 2043
trimethylsilyl–, in Cope rearrangements, 157

Enols
1,3–diene–1,3–diol, struct element of mediterraneol E, 2477
2,2–dimesityl–1–trimethylsilylvinyl alcohol, mesityl group rotation, 1233
α–formylcyclopentanone bis–enol triflate, dienediynes from, 1449, 1453
α–hydroxy–β,β–dimesitylvinyl silanes, α–t–butyl–β,β–dimesitylvinyl alcohol, reaction with $SOCl_2$, 6391
keto–enol tautomerism of steroidal α–nitroketones, 5353
triflates, Pd–catalysed allylation, carbonylation, vinylation, 157

Enones
(2*E*,4*E*,6*S*,10*S*)–4,6,10–trimethyl–2,4–dodecadien–7–one, synth, 5995
1,2,3–trihydroxyhept–4–en–6–one, synth from glucose, 4831
2,6–dimethylcyclohex–2–enone, double Michael addn of acrylic ester to Li enolate, 5531
3–methylcyclohex–2–en–1–one, high pressure $EtAlCl_2$ catalysed cycloaddn to dienes, 6445
3a,4,5,6,7,7a–hexahydroinden–1–ones, and 4,7–bridged analogs, synth by Diels–Alder cycloaddns of 4–acetoxycyclopent–2–enone, 3739
α–alkenyl ketones (βγ–enones), synth, 4453
α–iodo–, α–triflyloxy–, Pd–catalysed cross–coupling with vinyl–Zn, –Al, –Sn reagents, 4453
α–methoxy–, conjugate addn of organocuprates, 4451
αβ–enones, allylic oxidation by $VO(OR)Cl_2$, 1741
alkenyl–substituted, photocyclization forming fenestrane derivs, 2105
aryl sec enaminone dianions, elim by Me_3SiCl to β–arylethynyl ketones, 7091

β–(2–furyl)vinyl ketones, reduction by Mg/EtOH, 4183
β–methoxy–αβ—, cyclic, Michael addns forming bicyclo[2.2.2]octanones, bicyclo[3.3.1]nonenones, and bicyclo[3.3.0]octenones, 4691
β–phenylsulfonyl, acylacetylene equivalents in Diels–Alder reaction, 5405
βγ— in seven–membered ring of hydroazulenes, synth, 6011
bicyclic – with cyclopentene rings, 7361
catalysed α–halo– formn from sec alkynols, 2099
chiral 5–methoxy–1,5–dimethyl–2–α–naphthyl bicyclo[2.2.2]oct–2–en–7–one from carvone, 6609
conjugate addn diethylzinc to enones in presence chiral catalyst, 95
cyclic αβ—, addn of chiral alkyl amidocuprates, 3973
cyclohex–2–en–1–one, 4–dichloromethyl–5–methoxycarbonylmethyl–4–met hyl–, stereospecific acetoxylation by $Pb(OAc)_4$, 4577
cyclohex–2–en–1–ones, synth using methoxycyclohexadienyl $Fe(CO)_3^+$ complex, 1291
cyclohex–2–enone, (–)–*trans*–3,6–dimethyl–5–trimethylstannyl–, synth, uses, 5219
cyclohexenones, intramol photocyclization of dimethylaminoalkyl groups, 7151
cyclopent–2–en–1–ones, 4–oxy–, methoxycarbonylalkenylation at 2–, 1325
cyclopentenones, synth from allylidenetriphenylphosphoranes and α–halocarbonyl compounds, 4521
cyclopentenones, transformations in ginkgolide analog synth, 4623
dienolates, Ge–masked, addn to Michael acceptors, 4749
dienyl–diketones from – and (*E,E*)–buta–1,3–dienyl 1,4–biscuprates, 7211
enediones by $[RhCl(C_2H_4)_2]_2$–$SnCl_2$–catalysed reaction vinyl ketones with allyl acetone, 1077
from silyloxycyclopropanes *via* telluration and dehydrotelluration, 229
γ–dibenzylamino–αβ–unsat ketones, epoxidation by t–BuOOH/KOtBu/NH_3/THF, 4477
hydrogenation catalysed by ferrocenylamine–sulfide Pd(II) complexes, 5489
intramol cycloaddn of – to enone, $MeAlCl_2$–catalysed, 6473
Michael addns of β–dicarbonyl compds, LiI–catalysed, 5373
Nazarov cyclization of divinyl ketones, theoretical study, 725
o–subst phenyl propenyl ketones, organo–Cu addn to $Cr(CO)_3$–complex, 4565
pyridiniosilylation, α–methoxyalkylation, of αβ–enones, 2043
resolution of 4–acetoxy–3–methyl–2–(2′–propynyl)–2–cyclopente none using lipase, 5119
samarium –, from SmI_2 cleavage of cyclopropyl ketones, alkylation, acylation, 6211
silyl ketene acetals, conjugate addn to enones catalysed by $LiClO_4$, 4665
stereosel hydroboration of acyclic enones, (Z)–vinyloxyboranes, 1229
stereospecific synth *via* 1,3–dienyl–2–boronic esters, 3655
steroidal enediones from homoallylic alcohols by sonochemical perruthenate oxidation, 3201
synth 4–dioxolan deriv of 1,2,3,4–tetrahydro–4–oxo–1–trifluoromethylbenza ldehyde, 4143
vinyl ketones, tributylphosphine catalysed addn to nitromethane, 5543
see also Chalcones

Enynes
1,6—, reactions with adsorbed chromium tricarbonyl complexes, 1–acetonylbicyclo[3.1.0]hexane synth, 5895
alkenynyl diazoketones, Rh–catalysed cyclizations, cyclopropene generation, 4103
cyclodec– and cycloundec–4–en–2,6–diyn–1–ol, synth by acetylide–aldehyde cyclization, 3171
dienol carbamates from, by Ru–catalysed reaction with R_2NH and CO_2, 7409
enantiosel double–bond epoxidation, 6533
enyne alcohols, reduction by Rieke Zn to dienyl alcohols, 299
ethoxycarbonyl—, synth by Pd(II)–catalysed β–ketoester enol triflate coupling to alkynylstannanes, 6675
fluoro–, from bromo–fluoroalkenes, acetylenes with $Pd(OAc)_2$, 69
pent–2–en–4–ynoate esters, reduction by s–$Bu_2Cu(CN)Li_2$, 1,4(6)–reduction, –addn, 7229
prelaureatin, natural cyclic bromo–ether with enyne side–chain, 5597
propynylidenecyclopentanes, synth from δ–acetylenic malonates and 1–halo–alkynes, 6541
synth by Suzuki reaction with Markovnikov vinylboranes, 2311
synth by vinyl chloride – acetylene cross–coupling, $PdCl_2(PhCN)_2$.CuI in piperidine, 6109

Enynones
alkynyl alka–1,3–dienyl ketones, by isomern of dialkynyl ketones by Ru catalyst, 7549
electrocyclization of in juncusol synth, 1279
Pd–catalysed synth from vinyl triflates, alkynes, and CO, 6449

Enzymes
3–hexulose phosphate synthase, for aldols with D–ribulose 5–phosphate, 3159
5–(enolpyruvoyl)shikimate 3–phosphate synthase (EPSPS) inhibitors, 2589
Δ9–desaturase–deficient baker's yeast mutant incapable of *S*–oxidation of thioether groups in fatty acid chains, 891
α–glucosidase I inhibitors, polyhydroxy–quinolizidines and –indolizidines, 5853
α–glucosidase, yeast, inhibitor of, 3927
aldolase enzyme model, 6–amino–6–deoxy–[7]–β–cyclodextrin, 1207
ATP–citrate lyase inhibition, synth (±)–*erythro*–, (±)–*threo*–2–vinylcitric acids, 4587
β–*N*–acetylglucosaminidase inhibition by castanospermine analog, 719
β1,4–galactosyltransferase, β–galactosidase, galactosyl–disaccharide synth using, 4867
chemoenzymic enantiosel synth 3–hydroxy–3–phenylpropionic acid, 1901
chymotrypsin, in enantiosel hydrolysis dimethyl 3–(4–chlorophenyl)glutarate, 4249
fatty alcohol oxidase from yeast, 2–hydroxyalkane oxidation by, 2009
glucose oxidase, cresol methylhydroxylase, electron transfer kinetics, 5063
glucosidase inhibition by homocastanospermine deriv, 4889
glucosidase inhibition, kinetics, 1–β–amino–1–deoxynojirimycins, 7199
glutamine synthetase inhibitor synth, 4–*N*–phosphonomethyl 2,4–diaminobutyric acid and derivs, 2711
glycosidases for conversion of glycals into 2–deoxy–β–D–glycosides, 6125

HMG–CoA synthase inhibitor, L–659 699 analogs with β–lactone ring replaced by γ–lactone, β–lactam, and oxetane rings, 3337
human leukocyte elastase inhibitors, 1–aza–2,4–dithiabicyclo[3.2.0]heptan–7–ones, 3771
human leukocyte elastase inhibitors, methoxy–desamino–cephalosporanic acid *S,S*–dioxide deriv, 3883
human leukocyte elastase inhibitors, 4–pivaloyl cephems, 6207
lipase (PPL)–catalysed transesterification in resolution of α–hydroxyalkyl stannanes, 5683
lipase Amano AK, transesterification, solvent effects on, 4941
lipase from *Candida cylindracea* for selective hydrolysis mono—*O*–acylated sucrose derivs, 3495
lipase from *Candida cylindracea* for selective γ–hydrolysis of dicyclopentyl glutamate, 3529
lipase from *Pseudomonas cepacia*, asymm synth of 6–cycloheptene–1,3,5–triol using, 2597
lipase from *Pseudomonas cepacia*, enantiosel acetylation of descarbamoylcalcheamicinone mono–ethylene acetal, 6667, of a bromo–glycol precursor to this, 6671
lipase from *Rhizopus arrhizus*, selective hydrolysis of galactolipids, 1331
lipase in resolution of (*E*)–1–trialkylsilyl–1–buten–3–ols, 4085
lipase PS, *Pseudomonas cepacia*, enantiosel acylation of sulfonyallylic alcohol, 5159
lipase, *Arthrobacter*, resolution of 4–acetoxy–3–methyl–2–(2′–propynyl)–2–cyclopente none using, 5119
lipase, *Candida cylindracea*, asymmetrization of 2,3,4–tri–*O*–benzylpentitols, 5701
lipase, immobilised *Candida cylindracea*, for transeserification of vinyl esters, 6865
lipase, *Pseudomonas capacia*, in synth both enantiomers of *cis*–4–acetoxycyclohex–2–en–1–ol, 3941
lipase, *Pseudomonas cepacia*, for resolution of artificial glycals, 5497
lipase, *Pseudomonas*, chiral acetylation of 2–hydroxytetracosanoic acid, 7063
lipase, *Pseudomonas*, for resolution of aliphatic alcohols using vinyl laurate, 7021
lipase, rabbit gastric, in kinetic resolution of β–hydroxyalkyl diphenyl phosphines, 5959
lipases (various) for enantiosel mono–hydrolysis bis(acetoxymethyl) 4–(*m*–nitrophenyl)–1,4–dihydropyridine–3,5–dicarboxylate, 3465
lipases catalyse amide synth from esters and amines, 761
lipases catalyse amide synth from esters and amines, 761
lipases from *Candida cylindracea* and *Chromobacterium viscosum*, chiral acylation of bishydroxymethylsilane using, 6325
lipases from *Pseudomonas spp.* in enantiosel hydrolysis di(acyloxymethyl) 1,4–dihydropyridine–3,5–carboxylates, 5805
lipases in amide formation from acids, 2763
lipases in enantiosel hydrolysis *N*–acyloxymethyl barbiturates, 6763
lipases, for enantiosel acylation of 2– and 3–hydroxymethylpiperidines, 4197
mono– and dioxygenase oxidation of quinoline, abs config of products, 2963
neuraminic acid aldolase in synth allyl *C*–glycoside of *N*–acetylneuraminic acid, 3953
nitrilase from *Rhodococcus sp.*, immobilised, nitrile hydrolysis using, 341
nitrilases from *Rhodococcus butanica*, kinetic resolution of nitriles, amides, acids, 1343
nucleotide binding –, fluorescent, photoactivable agents for, 3′–*O*–anthraniloyl–5′–azido–AMP, –ADP, –ATP, 4699
oxidase from *Hyalophora cecropia* cuticle, *N*–acetylhistidine coupling to side–chain of *N*–acetyldopamine, 4287
oxidosqualene–lanosterol cyclase, with hydroxy analogs forming 19– and 21–hydroxylanosterols, 6843
oxynitrilase–catalysed synth (*R*)–ketone cyanohydrins, 2605
penicillin cyclase, biotin synthetase, catalytic Fe systems as proposed model, 2351
penicillin G amidase, acylation of 2–amino–β–lactam deriv by, 1621
phosphatidyl inositol–specific phospholipase C, inhibition of by cyclic phosphonate analog, 2207
phospholipase C inhibitor, vinaxanthone, 4737
pig liver cytochrome P–450 – oxidises (*R*)–reticuline to salutaridine, 3675
porcine pancreatic lipase for enantiosel mono–deacylation *cis*–1,4–diacyloxy–2–butene 2,3–epoxide, 3043
porcine pancreatic lipase, chiral 4–acetoxycyclopent–2–en–1–ol synth using, 2409
potential thrombin inhibitors, difluoromethylene ketone retroamide peptide analogs, 7255
protease inhibitors, hydroxyethylene dipeptide isosteres for P1′ subsite, 5857
proteases, stabilised as polymer–carbohydrate conjugate, 6823; synth of peptides using, 6827
protein kinase C inhibitor, synth, 7183
protein kinase inhibitors, methyl derivs of sangivamycin, 7273
reductase from *Corydalis cava*, NADPH reduction protoberberines by, 487
renin inhibitor isostere, synth of indermediate to, 4503
renin inhibitor, 10–membered lactone–lactam, low activity, 7655
renin, inhibitor, cyclothiazomycin from *Streptomyces sp.*, 217, 221
renin, inhibitors, macrocyclic diamide synth, 2453
renin, inhibitors, sulfones as peptide bond isosteres, 5263
rhinovirus protease inhibitor, thysanone, 5279
shikimate kinase, enolpyruvylshikimatephosphate synthase, in labelled epsp synth, 963
Staphylococcus aureus V8 protease in peptide synth, 3421
subtilisin, in synth phenylalanyl–thymidine and –deoxyadenine, 5357
synth of putative NO–synthetase substrate, 875
thrombin inhibitors, synth peptidylphosphonic acid derivs, 7333
topoisomerase II inhibitor, indole–4,7–quinone, source unspecified, 2791
transketolase (EC 2.2.1.1) in enantiosel synth (+)–*exo*–brevicomin, 4835
transketolase, hydroxypyruvate coupling to aldehydes by, 5085
tyrosine hydroxylase, synth potential inhibitors, 887
undecaprenyl diphosphate synthase in glycinoprenol synth, 241
uricase oxidation of uric acid, allantoin formation, C–13 labelling, 7477

Epimerization

at C–5 of 2–benzoylamino–γ–butyrolactone, lactone hydrolysis by $A_{Al}2$ mechanism, 2331
mechanisms for – on alumina of cyclopentadiene–dimethyl fumarate/maleate adducts, 5663

Epoxidation
4–deoxy–α–L–*threo*–hex–4–enopyranosides, by MCPBA, 959, corrigenda, 2692
allylic alcohol – in synth brassinolide side–chain, 4817
asymmetric, chiral (salen)Mn(III) complex for, 6533
by oxygen using Ni bis(tosylaminobenzylidene)ethylenediamine catalyst, 6891
chiral 2–(α–hydroxyalkyl)–1,3–butadienes, $VO(acac)_2$–catalysed, 4513
cyclohexa–2,5–dienone 4–spiro–γ–lactones, bis–, 6613
diastereoselective – of asymmetrized 2–alkenyl–1,3–propanediols, 6943
dimethyldioxirane – of 6,6–disubst fulvenes, 6697
enantiosel – of (*E*)–2,5–dihydroxy–2,5–dimethylhex–3–ene, 3527
enantiosel Mn(III)salen catalysed – of 2,2–dimethylchromenes, 5055
enantioselective catalysis by chiral metalloporphyrins of – of *p*–chlorostyrene by PhIO, 4901
enantioselective, of 6–hydroxy–3,3–dimethyl–4–hexenonitrile, 2637
enantioselective, of olefins by PhIO, chiral (salen)Mn(III) catalysts, 1055
flavones, 2,3– by dimethyldioxirane, 1041
γ–dibenzylamino–αβ–unsat esters, ketones, by t–BuOOH/KOt–Bu/NH_3/THF, 4477
geraniol, using lanthanide isopropoxides/TBHP, 2355
nucleophilic – of γ–oxy–αβ–unsat sulfones, diasterofacial selectivity, 5393
of electron–deficient allylic alcohols by $VO(acac)_2$/t–BuOOH, 2687
of homoallylic alcohol by $VO(acac)_2$/t–BuOOH, 2651
olefins by t–BuOOH, V_2O_5–catalysed, 3167
oxygen transfer from aromatic *N*–oxides to olefins catalysed by RuO_2–tetramesitylporphyrin, 7435
Sharpless epoxidation of electron–deficient hydroxy–olefins, 2687
Sharpless–Katsuki – of *cis*–pent–2–ene–1,5–diol 5–*O*–TBS deriv, 2797
stereochem of – of allylic fluorides, 6355
stereocontrol in epoxidation by t–BuOOH/$Mo(CO)_6$ of 4–hydroxycyclohexene deriv, 1707
stereosel – of 3–hydroxy–4–(diphenylphosphinyl) alk–1–enes, 7123
stereospecific – 5,6–double bond of vitamin D_3, 6057

Epoxides
(*S,S*)–1,2;3,4–diepoxybutane, synth, chiral glycols from, 883
1,4–epoxycyclohex–, –hept–2–enes, reductive ring–opening by alkyl–Li, –MgX/$MgCl_2$, 4827
2,2–dimethyl 3,4–epoxychromans, enantiosel catalysed synth, 5055
2,3–epoxy–4–hydroxybutyronitrile, chiral material in asymm synth 2,3–epoxybutane–1,4–diols, 6731
2,3–epoxy–alcohols, Ti(IV)–mediated ring opening by primary amines, 6931
2,3–epoxynorbornanes, effect of polar substituents on RuO_4 oxidation, 1169
2,3;4,5–diepoxy–tetrahydrofuran–butenolide, unnamed pseudopteranane metabolite from coral, 4661
2–butene –, (*E*)– and (*Z*)–, reaction with lithiomethyl phenyl sulfone, 1385
2–glycidyloxy–pyridines, transfer with rearr of alkyl group to N, 7155
3,4–epoxy–1,2–propanediol, conversion into lipoxins, 1165
4,5–epoxy–2–penten–1–ols, phase transfer synth *via* arsonium salt, 3999
α–aryloxy–βγ–epoxy–amide, synth in Passerini reaction, 3807
αβ–epoxy–aldehydes, from photosensitised oxygenation of phytol, 6551
αβ–epoxyaldehydes, chiral, addn of Li enolates, 5345
BF_3–promoted reaction with organo–copper glycosyls, 769
cathodic isomerisation 2,3–epoxypropylsulfides/sulfoxides/sulfones to 3–hydroxyprop–1–enyl compds, 1099
chiral synth α–halomethyl–, α–hydroxymethyl–, α–(1,2,4–triazolylmethyl)–, 7545
chiral t–butyl glycidic esters, synth using boron methodology, 2857
chiral, ring–opening by $AlMe_3$, 1059
cis–1,4–diacyloxy–2–butene 2,3–epoxide, enzymic enantiosel mono–deacylation, 3043
cyclopentene epoxide derivs, carba–nucleosides from, 611
dimethyldioxirane epoxidation of 1,2–dialkoxyethylenes, 1295
epoxy–olefins, Co–mediated cyclization to homoallylic alcohols, 243
epoxyalkyl *N*–acetylglucosamine glycosides, transglycosylation, 1413
epoxychalcones, photo–induced SET reaction of allylstannane with, 2029
from perepoxide by phosphite deoxygenation, 863
γ–hydroxyketones by $LiClO_4$ catalysed addn of Li enolates to –, 7583
isoprene 3,4–epoxide, Pd(0)–catalyzed hydroxyprenylation by, 2193
kinetic resolution by decomp of 2,3–epoxy alcohols by chiral Ti(IV) catalyst, 3547
metal–catalysed ring–opening of – by Li acetylides, 6617
methyl 4,5–epoxyshikimate, synth, uses, 2589
naphthalene, 1,2,3,4–tetrahydro–1,4;2,3–diepoxy–, rearr, 851
polycyclic hydrocarbon –, deoxyadenosine adducts, 6073
quinoline–5,6–, absolute configuration of quinoline–monooxygenase product, 2963
rapid formn on reactn diazomethane with 8–oxabicyclo[3.2.1]octan–2–one deriv, 1637
reductive α–alkylation by RLi of α–epoxysilanes, stereochem, 3457
regiosel opening to halohydrins by lithium halides, 3021
ring–opening 6–oxiranyl– to 6–(2–hydroxyethylidene)–β–lactam, 1023
ring–opening by $ClBH_2$/Me_2S, 3719
silyl enol ether–olefin–epoxide bicyclizations, Lewis–acid catalysed, 7005
spiro– from fructopyranose, phosphonic acids from, 1237
stereochem of reductive alkylation of *trans*–α–stannyl epoxides by organo–Li reagents, 6305
stereosel reduction by $Pd(OH)_2$/H_2 of 2,5;3,4–dianhydroaltritol, 5273
stereosel ring–opening in macrolide using *o*–formylbenzoic acid, 7397
synth of 6–, 7–, and fused 6/7–membered cyclic ethers using, 2241, 2245, 2249
tricyclo[5.2.1.$0^{2,6}$]deca–4,8–dien–3–one 4,5–, reduction by LDA, organometallic addn and Payne rearr, 3127
vinyloxirane, Pd(O)–catalysed nucleophilic addn, 2025
see also Oxiranes

esters
6–*O*–acylcastanospermine, acyl migration between adjacent OH groups, 4669
8–15–membered β–hydroxycycloalkanecarboxylates, by SmI_2–promoted intramol Reformatsky reaction, 6371
α–azidocinnamates, intramol reactions with 1,3–dienes, bridged isoquinolines, 1409

αβ–unsat –, Rh–catalysed Michael addn of activated nitriles, 2807

αβ–unsat γ–hydroxy–, chiral synth, 1495, 1499

αβ–unsat, from aldehydes, bromoacetate, $Pd(PPh_3)_4/Bu_3P$, 513

αβ–unsaturated –, reductive dimerization by SmI_2, 6557

αβ–unsaturated, by Horner–Wittig reaction using 1,3,2–diazaphospholidine derivs, 1317

acrylates, synth using immobilised lipase, 6865

alk–2–ynoic –, β–iodoalkenoic – from, by HI addn using NaI/AcOH, 5329

alkoxytitanium homoenolates, reaction with chiral *N,N*–dibenzyl–α–aminoaldehydes, 233, 1867, and α–(t–butoxycarbonylamino)aldehydes, 1867

allenyl α–ethoxyethyl –, lithiation and Li–Sn exchange, 1899

allyl acrylate, tandem cycloaddns to 2–pyrone with intermed decarboxylation, 2549

angelate –, methodological lacuna, 5077

catalysis of hydrolysis by bis(dihydroxyphenyl)imidazolylmethane, 4757

cleavage by MgI_2 under non-aqueous conditions, 5931

dimethyl acetylenedicarboxylate, reactions with [6](1,4)anthracenophane, 359

dimethyl isopropylidenemalonate, $AlCl_3$–catalysed addns to dienes, 355

dimorphecolic ester, synth geometical isomers by Pd–catalysed coupling vinylzinc to vinyl iodide systems, 3701

ethyl 4–methoxyphenyl–α–pentafluorobenzoyloxyacetate , solvolysis in 50/50 CF_3CH_2OH/H_2O, 4255

ethyl bicyclo[3.3.0]octa–2,6–diene–2–carboxylates from 1–subst 1–vinyloxycyclopent–2–ene–4–malonic esters, 3399

ethyl carboxylic – from alcohol mesylates, CO, iodide and a Co catalyst, 3091

fluoro–alkanoic –, synth by hydrogenation of fluoro–alkenoic –, 2735

hydrolysis by alkali carbonates, 327

hydrolysis by model enzyme system, 193

lipase–catalysed aminolysis forming amides, 761

malonate – from Bayer–Villiger oxidation of β–keto—, 2413

methoxymethyl, methylthiomethyl, methoxyethoxymethyl, β–trimethylsilylethoxymethyl –, removal by $MgBr_2$ in ether, 3099

p–subst α,α–di–t–butylbenzyl *p*–nitrobenzoates, solvolysis in 50% aq EtOH, 2929

reduction to alcohols by SmI_2/base, 3511

synth of D–malates from L–tartrates, 3155

tetrahydro–trimesic esters, by radical [2+2+2] cycloaddn of ethyl propiolate to acrylic esters, 5101

Ester halogen derivs

α–fluorination by *N*–fluoro–1,2–benzenedisulfonimide, 1631

α–fluoro–, by enolate fluorination, 1779

β–bromosuccinic ester, SmI_2 and Grignard reagent, synth cyclopropanols, 7691

bromo–esters, cobaloxime–catalysed coupling to styrene, 6273

bromomethyl acetate, with SmI_2 for synth 1,2–diol diacetates from aldehydes and ketones, 2433

ethyl bromoacetate, cond with aldehydes to αβ–unsat esters using $Pd(PPh_3)_4/Bu_3P$, 513

methyl 2,2–dichloro–3,3,3–trifluoropropionate, Reformatsky reactions of, 339

methyl α–bromocrotonate, 1–bromo–3–methyl–2–vinyl *cis*–cyclopropane–1,2–dicarboxylic ester from, 4695

stereoselective radical reduction and halogen substitution in β–alkoxy–α–haloesters, 27

t–butyl bromoacetate, chiral aldol and Darzens reactions with aldehydes, 2857

Ethers

allyl aryl –, synth by Pd–catalysed decarboxylation of allyl aryl carbonates, 6315

allyl propargyl –, cyclization by stannyl radicals, 1799

allyl silylmethyl –, Wittig (1,2–) and Wittig–Still (2,3–) rearrangements, 5401

aryl buta–2,3–dienyl and but–2–ynyl –, cyclization to benzopyran derivs by Hg(II) trifluoroacetate, 6641

benzyl, allyl removal by $AlCl_3/PhNMe_2$, 1321

benzylic, allylic, silyl –, oxidation to C=O by DDQ under UV irradiation, 3993

chiral allyl –, diastereosel cycloaddn of nitrones, 1659

cyclic enediynes, aromatization by bases to 3,4–dihydro–2–benzothiopyrans, 391

cyclic enol – from intramol Wadsworth–Emmons reactions, 6947

cyclic enol –, α–lithiated, C–O cleavage with R–Li addn, 5903

cyclic enol –, $Mn(OAc)_3$–promoted addns of β–diketones, β–ketoesters, 7107

cyclic, episulfonium ion intermediates in $PhSNR_2$/TFA cyclization of alkenols, 2261

cyclic, phenylthio group migration in 1,4– and 1,5–diol cyclodehydration, 5409

cyclotriveratrylene, triply bridged with pyridine–attached moieties, 7261

enol – from organotin reagents and aldehydes, 13

enol –, annulated γ–lactones from $Mn(OAc)_3$–promoted addn malonic mono–esters, 1011

enol –, BF_3–catalysed nucleophilic subst in $Fe(CO)_4$–complexed γ–acetoxycrotonates, 1141

enol –, by 1,5–biradical disproportionation, 895

enol –, *cis*–β–tolylsulfinyl–, by alkoxide addn to ethynyl sulfoxide, 4907

enol –, cycloaddn to 2–nitro–1,3–dienes, 5607

enol –, epoxidation by dimethyldioxirane, 1295

enol –, ultrasonic acceleration of addn–rearr of sulfonyl azides with, 2457

ether C–O bonds cleaved by $ClBH_2/Me_2S$, 3719

glyceryl 1,3–di–, synth optically pure by Ru–catalysed asymm hydrogenations, 4381

homoallylic –, from aldehydes, ketones by silyl–modified Sakurai reaction, 4779

hydroxyalkyl (β/γ–) from cyclic ketals by reduction with $BH_3.SMe_2$ and TMS–triflate, 1095

methoxyethoxymethyl, t–butyldimethylsilyl, deprotection methods, 1553

methyl alkenyl –, co–condn of two mols with ArSCl and RMgX, 2601

phenolic, fluorination by *N*–fluoro–1,2–benzenedisulfonimide, 1631

polycyclic –, perhydro–pyrano[3,2–*b*]pyrans, –oxepino[3,2–*b*]oxepins, 6.7.7 and 6.7.7.6 systems by cyclization of stannyl ether aldehydes, 7069

silyl enol –, $AgBF_4$–catalysed reaction with 2,3–diiodo–1–phenylsulfonylpropene, 5673

t–butyl –, microbial hydroxylation on t–butyl group, 1983

vinyl –, calculations on lithiated species, 6069

vinyl butyl –, Heck arylation in synth acetophenones, 1753

vinyl group transfer from O to C in in γ–lithioalkyl vinyl ethers, 4425
vinyl, trapping benzoyloxy radicals by, 311
Wittig rearr of in synth taxane skeleton, 2629
see also Oxygen heterocycles

Exchange reactions
interconversion *exo–endo* in crotyl–Mo complexes, 1271
ion –, iodide by hydroxide in trialkylsulfonium, trialkylsulfoxonium salts, extractive method, 3621
methyl–Cu – alkenyl–Zr interchange, 5647
proton (H/D)– in 2–subst–4,6,6–trimethyl–dihydropyrimidines, 2057
vinyl groups between boron and zinc, 2449

Extrusion reactions
azireno[1,2–*b*][1,2]benzisothiazole 3,3–dioxide, 1,3a,7a,7b–tetrahydro–, SO_2 from, 1299
biphenyl from tetraphenylselenurane and 5,5–diphenyl–Se(IV)–dibenzoselenophene, 3179
disulfur from triphenylmethyl chlorodisulfane, 1,4–cycloaddn to diene, stepwise mech, 7651
electroreductive desulfurization 4*H*–1,3–thiazines to pyrroles, 2225
of bis(η^5–cyclopentadienyl)titanium oxide from 1–oxa–2–titaniacyclohexenes, 1687
of SO_2 from dithia[4.4]orthometa– and orthopara–cyclophane tetroxides, 2117
sulfur – from triphenylmethylsulfenyl chloride catalysed by thioketone, mech, 7633
sulfur from 1,5–benzothiazepines, 643

Ferrocenes
1,1′–bis(diphenylphosphino)ferrocene $NiCl_2$ complex, cross–coupling catalyst, 189
biferrocenyl polyether, water–soluble redox mediator, 5063
ferrocenylamine–sulfide Pd(II) complexes, hydrogenation of conjugated double bonds catalysed by, 5489
macrocyclic polyether–bridged; also with $–CH_2S–$ at 1,1′–positions, acid–catalysed formn from 1,1′–dimethoxy– and 1,1′–CH_2OCH_2–bridged –, 3775
mech of homolytic acylation, 4993

Flavanoids
syzygiol, from *Syzygium polycephaloides*, struct, biol activity, 211

Flavones
amentoflavones, biflavonoid synth by arylboronic acid couplings, 2229
complanatin, flavonoid glycoside with abscisic acid–type sesquiterpenoid attached, 6135
epoxidation, 2,3– by dimethyldioxirane, 1041

Flavours and fragrances
ionone type C_{13} acetals from quince brandy, 753
isol of acyclic precursors to marmelolactones, marmelo–oxides, quince oxepin, 4487
marmelo oxides, precursor 2,7–dimethyl–8–hydroxy–4(*E*),6(*E*)–octadien–1–yl β–D–glucopyrano side isol from quince, 5943
marmelolactones, glycosidic precursor from quince, 3669
muscone synth, (±)– and (–)–, by radical ring expansion, 565
synth diol precursor to (±)–norlabdane, 4119

Fluorenes, fluorenones
9,9′–spirobifluorenes, 2,2′–(6–methylpyridine–2–aminocarbonyl)–, and 2,2′–(6–acetaminopyridin–2–yl)–, H–bonding and chiral recognition in former, 5309
fluorenone for determination of $LiAlH_4$ purity/concentration, 4309

Fluorescence
bismethoxyphenyl methylphosphonates, emission spectra, 6899
photoinduced electron transfer in anthracene derivs, 421, 425
water–sol pyropheophorbide A derivs, fluorescence, 5107

Fragmentation
1–benzyl–1,2–dihydroisoquinolines, side–chain loss with aromatization, 1775
α–methoxybenzyloxy–fluoro–carbene, to CO, F^-, and $PhCH{=}OMe^+$, 5667
alkoxy radical – and recyclization, 1591
Beckmann – of α–alkoxycycloalkanone oxime acetates, reductive variant, 5367
fragmentation reactions during Eschweiler–Clarke methylation of polyamines, 7755
photo– of 2–morpholino–1,2–diphenylethanol by Rose Bengal and derivs, 7507
radical – of aminyls from sulfenamides, 6441
triple Grob – of 3,5,7–trimethyl–9,9–dichloro–1–aza–adamantane–4,6–dione, 4465

Fulvenes and Fulvalenes
1,4–dithia–, extended by benzene ring insertion, 2897
1–(benzyloxymethyl)–6–(3–silyloxy–1–propynyl)–3, 4–dihydrofulvene, synth part structure of neocarzinostatin chromophore, 5243
1–ethynyl–3,4–dihydro–6–(3–oxo–1–butynyl)fulvene , monocyclic neocarzinostatin chromophore analogue, 4863
6–dimethylamino–2–formylfulvene, reaction with *N*–vinylphosphinimines, 5–azaazulenes, 6727
6–dimethylamino–6–(2–thienyl)fulvene, reductive rearr to 2–cyclopentadienylidenethiopyran, 3499
allylation at Me of 6,6–diMe fulvene, Pd–catalysed, 5247
AM1 calculations on fulvene diradical species, 4601
dimethyldioxirane epoxidation of 6,6–disubst fulvenes, 6697
HMO, cyclopentanylidenetrimethylene methane, bis(cyclopentanylidenetrimethyl enemethane) calculated to be singlet zwitterions, 4659
triplet diradical prediction for 6,6–bis(cyclopentadienylene)fulvene and 6,6′–bis(6–cyclopentadienylenefulvene), 445

Furanones
2,2–dialkylfuran–3(2*H*)–ones, synth by base cyclization of 4–silyloxy–1,3–diketones, 2891
2,5–dimethoxy–2,4–bis(methoxycarbonyl)–3(2*H*)–, 2,3–dimethoxy–3,4–bis(methoxycarbonyl)–2(3*H*)–, bis(methoxycarbonyl)carbene dimers, 995
furanones and dihydro–, synth *via* phenylthioacetic esters by 3–4 bond formation, 2165
intermediates in milbemycin synth, 2269

Furans
(4,5–dihydro–2–furyl)–trialkylborates(1–), β–attack of electrophiles and alkyl 1,2–shifts, 6961
2(5*H*)–furanone, tandem Michael addn – aldol cyclization, 3735

2(5*H*)–furanones, 4–phenylsulfonyl–5–alkoxy–, dienophiles, chiral with methyloxy substit, synth, use, 7751
2,3;4,5–diepoxytetrahydrofuran–butenolide isol from natural sources, 4661
2,4–disubst, from 4–Zn–, –Mg–, –Ti–subst 2–furfural acetals, 903
2,5–bis(diarylmethylene)–2,5–dihydro—, synth, 4313
2,5–dihydro–2,5–divinyl—3,4–dicarboxylates, from 2,3–divinyloxiranes *via* carbonyl ylids, 7637
2–(α–acetoxyalkyl) tetrahydro–, stereospecific cleavage to γ–iodoalkenes by Me_3SiCl/NaI, 3059
2–(α–hydroxyalkyl)–4–methyl–, oxidative rearrangement to pyranone, 53
2–(trimethylsilyloxy)–, stereosel reactions with *N*–acyl–*N*,*O*–acetals, 3795
2–alkyl–2,5–dihydro—, synth *via* allenyl alcohols, 5713
2–carboxylic esters, tetrahydro–, by radical cyclizations, 1491
2–lithio–4–methyl–, stereoselective reaction with aldehyde, 53
2–methoxy–, cycloaddn to arynes, 6735
2–methyl–, Friedel–Crafts carboxyalkylation, 6171
2–t–butoxydimethylsilyl–3–hydroxymethyl–, lithiation at posn 4, boronation and cross–couplings, 5881
2–trimethylsilyloxy–, synth 4–(naphthoquinonyl) butanolides and butenolides using, 6417
3(2*H*)–furanones and dihydro– *via* nitrile oxide cycloaddn to olefins, 683
3–methylenedihydrofurans, dihydrofuran–3–ones, by stannyl radical cyclization of allyl propargyl ethers, 1799
4,5–dihydro–2–hydroxymethylene–3–furanone, formerly misidentified xylan pyrolysis product, 3067
4–hydroxy–4,5–dihydro—2,3–dicarboxylic esters, synth, 4687
4–hydroxymethyltetrahydrofuran–2–yl purine, pyrimidine bases, dideoxynucleoside analogs,271
5–aryl–3–hydroxy–2–hydroxymethyl–tetrahydro—, synth from glucose, 4831
6–dimethylamino–6–(2–furyl)fulvene, reductive rearr to 4–dimethylaminoazulene, 3499
α–furfuryl tosylamides, kinetic resolution, formation of 1,6–dihydropyridin–3(2*H*)–ones, 1467
addition of methyl–metal reagents to 2–(tetrahydrofuran–2–yl)acetaldehyde, 1937
amino–, by electroreduction 5–nitrofurfural acylhydrazones, 631
β–(2–furyl)vinyl ketones, reduction by Mg/EtOH, 4183
cis–2,5–disubst tetrahydro—, stereosel synth, 4015
cyclooctyne adduct in synth lactone (–)–muricatin, 5535
cyclopropyl–dihydrofurans, from alkynyloxycarbene $Mo(CO)_5$ complexes, 5223
diethyl 2–anilinofuran–3–phosphonates, 4279
furan–3–carboxamide, 2–ethyl–5–(2–hydroxyethyl)–, synth, oxidative rearr to γ–butyrolactam deriv, 3635
furfuraldoxime in Diels–Alder reactions; furo[2,3–*c*]pyridine *N*–oxide synths, 3199
furfurylideneacetone, in synth of macrolide deriv, 1599
intramol cycloaddn of – to furans, $MeAlCl_2$–catalysed, 6473
naphtho[2,1–*b*]furans, 1,2–dihydro–1,2–dihydroxy–, synth, 1519
neo–clerodane furanoid diterpenoids crotocaudin, isocrotocaudin, synth, structure revision, 7305
oxidation to 5–hydroxy–2–furanones in milbemycin synth, 2269
oxidation to 6–hydroxy–2*H*–pyran–3(6*H*)–one by t–BuOOH/$VO(acac)_2$, 1749
oxidative removal to carboxylic acid by RuO_4, 5187
synth by reductive cyclization of β–acyloxy–enones, 6695
synth from 2,3–diiodo–1–phenylsulfonylpropene and silyl enol ethers, 5673
synth from enals and aldehydes *via* arsoniosilylation, 2913
tetrahydro–, triterpenoid, x–ray struct, 1803
tetrahydro—, 2–tosylmethyl–, by radical cyclization of 4–pentenyl tosylates, 6653
tetrahydro—2–carboxylic esters, by CuCl–promoted radical cyclization, 3123
tetrahydro—2–ones, interconversions in synth (±)–acetomycin, 3381
tetrahydrofuran–2–spirocyclopentane, 4–methyl–3–phenylthio–, synth, 6645
tetronic acid, synth of component of tetronolide, 4925
trans–2,5–dihydroxymethyl–3,4–epoxy–tetrahydro—, stereosel reduction by $Pd(OH)_2/H_2$, 5273

Geochemical data

12,19–epithio–oleana–12,18–diene, from evaporitic sediments, synth, 4179
24,28–dinor–18α–oleanane from petroleum, 2959
cholestanethiols from petroleum, 2955
petroporphyrins, synth chlorophyll c fossils, serpianoporphyrin, 2537

Geometry

strain and geometry in reversible oxy–Cope rearr, 319

Germanium and compds

α–carbalkoxyalkenyl germanes, Ge–masked dienolates, addn to Michael acceptors, 4749
cyclodimerization of crowded diarylgermanethione, 1,3,2,4–dithiadigermetane, *cis*–2,4–bis[2,4,6–tris[bis(trimethylsilyl)methy l]phenyl]–2,4–dimesityl–, 6877
tetrathia–germacyclopentane, CAr_2 insertion by Ar_2CN_2, cryst structure 4,4,6,6–tetraaryl–1,2,3,5–tetrathia–4–germacycl ohexane, 6143, desulfurization to germanethione and dimerization, 6877

Gibberellins

structures of GA_{85} from *Brassica campestris*, GA_{86} from *Prunus persica*, synth Me esters, 6203

Glycals

3–thio–3–deoxy–, synth and prep doxorubicin analogs, 3313
addition of 2–thiopyridone and synth 2–deoxy–trisaccharides from, 7317
artificial, enzymic resolution *via* acylation, 5497
dichloroketene cycloadducts, chiral cyclobutanone synth from, 7543
enzyme–catalysed conversion into 2–deoxy–β–D–glycosides, 6125
epoxidation of tri–*O*–benzyl— by methyl trifluoromethyl oxirane, and dihydroxylation by OsO_4/NMO, 7215
exocyclic –, epoxidation by dimethyldioxirane, glycosides from, 4035
tri–*O*–acetyl–D–glucal, synth 9,12,13–trihydroxyoctadeca–10–enoic acid from, 4909
Vilsmeier–Haack formylation of glucal, galactal ethers, 3875

Glycerol

glyceryl 1,3–diethers, synth optically pure by Ru–catalysed asymm hydrogenations, 4381

Glycolipids
glycoheptaosyl ceramide, glucuronic acid–containing, synth, 1569
lysogalactolipids *sn*–1, *sn*–2, by selective enzymic hydrolysis, 1331

Glycopeptides, glycoproteins
C–mycoside –, synth *N*–Ac–D–Phe–D–allo–Thr–D–Ala–L–Alanilol–*O*–(3,4–di–*O*–Me–Rha*p*), 6621
carbohydrate protein conjugates, polymer–anchored proteases, 6823
glycopeptide building blocks, glycosylation of 3–mercaptopropionic acid, Fmoc–cysteine, –homocysteine, *O*— of Fmoc–serine, –threonine, 7613
glycosyl attachment to proteins and peptides *via* iodoacetamido–glycosides in reaction with cysteine side–chains, 6793
lys–asp–β–aminoethoxyphosphoryl–6–(Man*p*)–α–(1→2)–(Man*p*)–OMe, *Trypanosoma brucei* membrane anchor fragment, 6637
multiple column synthesiser for glycopeptides, 5067
nephritogenoside, synth trisaccharide glycoside of asparagine, 6873
solid–phase synth aminoglycosylated serine peptides, 1531

Glycosidation
1–trichloroacetimidates with TMSOTf for inverse condition α–fucosylation of disaccharides, 3353
2′,3′–dideoxycytidine, from bis–silylated cytosine and methyl 5–*O*–acetyl–dideoxyriboside, 5717
alcohol 2–deoxy–D–fucosides, α–selectivity and conformational assistance, 6887
enzyme–catalysed synth 2–deoxy–β–D–glycosides from glycals, 6125
galactosyl–disaccharide synth using enzymes, 4867
glycosylation by 2,6–anhydro–2–thio sugar, and desulfurization to branched dideoxy–glycoside, 6155
neoglycoprotein synth using oligosaccharide oxazolines, 4447
of lignans by sugar diphenylphosphinimidates, 1653
of silylated thymine by 1–thiopentosides, 1813
phenylselenoglycosides, use as glycosyl donors, 4435
thymine azido–di– and tri–deoxy–hexofuranosides, synth, 3361

Glycosides
2,7–dimethyl–8–hydroxy–4(*E*),6(*E*)–octadien–1–yl β–D–glucopyranoside, isol from quince, 5943
3,4,6–tri–*O*–benzyl D–glucopyranosides of allylic alcohols, chiral auxiliary for cyclopropanation, 7215
3–*O*–α–L–arabinopyranosyl–(1→6)–β–D–glucopyranoside of *S*–(+)–linalool, from raspberries, 4885
8–hydroxy–2,7–dimethylocta–4,6–dienoic acid β–D–glucopyranoside from *Cydonia oblonga*, 3669
acylation of glycosylamines by 3–acyl–5–methyl–1,3,4–thiadiazole–2–thione, 1557
anomeric assignment by nmr in 2–fluoro–2–deoxyarabinosides, 1287
β–C–ribofuranosyl glycines, synth *via* phosphoryl glycine esters, 2113
C–alkenyl–, synth, acid–induced anomerization, 2199
chiral Diels–Alder reactions of methyl 2–acryloyl–3,4–*O*–methylene–β–D–arabinoside, 5529
complanatin, flavonoid – with abscisic acid–type sesquiterpenoid attached, 6135
deallylation of allyl glycosides with adjacent azido groups, 7369
epoxyalkyloxy *N*–acetylglucosamine glycosides, transglycosylation, 1413
from epoxides of exocyclic glycals, 4035
glycophosphatidyl anchor of *Trypanosoma brucei*, synth, 671
ilexosides A–D, triterpenoid glycosides from *Ilex crenata*, arabinose, xylose and glucose sugar moieties, 3535
jujubasaponins I–III, dammarane L–arabinopyranosyl L–rhamnopyranosides; revision of ziziphin structure, 7059
madurolide, 6–deoxy–3–*O*–methyltalose pyranoside of macrolide system, 2323
methyl α–D–mannopyranoside, synth 2,6–dimethylheptane–1,3,4,7–tetrol deriv from, 6015
O–protected *N*–acetylneuraminic acid–α(2→6)–D–gal thioglycoside, synth as building block for sialosides, 7453, synth corresp α(2→3)–D–gal, 7457
oxetanosyl *C*— of maleimide, 2399
propargyl alcohol – of olefinic sugars, cyclization by tin radicals, 1799
secologanin, conversion into cadambine, glucosidic indole alkaloid, 1987
spiro—, breynins A, B, pmr, cmr, revised structure for breynin B, 6847
thymine L–dideoxy–pentosides, fluoro–, azido–, didehydro–, 79

Glycosylation
1–(2–pyridylthio)–2–deoxyglycosides, use in trisaccharide synth, 7317
2–benzoyl–2,3,6–tribenzylglucosyl allyl alcohols, use of β–1–benzoyloxy deriv, 7215
2–deoxy–, 1–*O*–silylated sugars as donors, 2079
aminoglycosylation of solid–phase bound serine peptides, 1531
glycopeptide building blocks, *S*— of 3–mercaptopropionic acid, Fmoc–cysteine, –homocysteine, *O*— of Fmoc–serine, –threonine, 7613
glycosyl 2–pyridinecarboxylate, glycosyl donor remotely activated by Cu(II), Sn(II) triflates, 7065
serine and threonine –; H–bonding to Schiff's base, 585

Gold and compds
bisporphyrin system containing Au(III) and Zn(II), 197

Grignard reactions and reagents
addition to hindered methyl ketone, $CeCl_3$ yield improvement, 871
addition 1–magnesio–1,2,3,4–tetrahydroisoquinolines to carbonyl compounds, 1941
addition to α–TBDMsilyloxy–*N*–TMsilyl–aldimines, stereochem, 2967
alkyl–, aryl–desulfonylation of t–butylsulfonyl alkenes by RMgX/$Pd(acac)_2$, 4583
allyl –, reaction with benzonitriles, 1,2,3,4–tetrahydropyridine product, 7393
asymm induction in reaction with *N*–alkyl–2,3–bis(bulky–silyloxy)succinimides, 3401
cross–coupling with neopentyl iodides, Ni–catalysed, 189
cyclopropanol synth from β–bromosuccinic ester, SmI_2 and – reagent, 7691
diastereoselection of Grignard addn to acylsilanes with chirally subst Si atoms, 6801
furfural acetals, 4–magnesio–derivs, 903
hydrogen–metal exchange in cubane–1,4–bis(diisopropylcarboxamide), 2173
Ni–catalysed displacement MeS group from terpyridine by $BrMg(CH_2)_3OBu^t$, 3325
perfluoroalkyl–, synth, reaction with benzoylsilanes, 83

phenyl –, Cu–modified, ring–opening of aziridine *N*–Boc deriv by, 1897
phenyl –, with perfluorohexyl oxirane forms bromohydrin, 3047
stereochem of reactions with 2,3–*erythro*–tetro–, pento–, hexo–furanose acetonides, 5143
vinyl –, dimerization of by $CeCl_3$, coupled products with dibenzyl ketone, 2787
vinyl–alkyl–di–Grignard intermeds in synth unsaturated spiro compds, 5861
with oxazolidines from β–hydroxyalkyl amine oxides, 1443
zirconocene dichloride catalysed ethyl Grignard addn to olefins and synth 1,4–dimagnesium reagents, 6797

Guanidines
bicyclic guanidinium receptors, extraction of adenine monophosphate nucleotides, 1827

Halogenation
acetylenes, iodo–, bromo–, cyano–, using $(Me_3SiO)_2$ and CuX_2 or ZnX_2, 2169
addition BrF to acetylenes, 69
bromination of α–oxetane, α–tetrahydrofuran ester anions by CBr_4, 3569
bromination of olefins using Bu_4NBr_3, acceleration by ultrasound, 4135
bromination, iodination, of brexadiene, addns, rearrangements, 6429
bromo–fluorination of allylic alcohols, 6355
by NCS, NBS, NIS, catalysed α–haloenone formn from sec alkynols, 2099
chlorination by phenylselenyl chloride, 7079
electrophilic fluorination of silyl enol ethers, radical pathway contra–indicated, 3815, 3819
fluorination of enolates, selective mono–di–, by *N*–fluorosultam, 1779
halofluorination of olefins, $Bu_4NH_2F_3$ as fluoride source, fluoroalkene synth, 1215
meso–tetraarylporphyrinato–zinc, –manganese, 1355
Ni–porphyrin complexes by phenylselenyl halides, 5015
nucleophilic fluorination by tetrabutylammonium difluorotriphenylstannate, 7381
perbromide ion, nucleophilic bromination of costunolides by, 3217
synth of, fluorination by, *N*–fluoro–1,2–benzenedisulfonimide, 1631
trans–dichlorination of olefins, permanganate–oxalyl chloride reagent, 1831

Halogens
(±)–2–fluoromethyl, –difluoromethyl tyrosine derivs, 887
2–(pentafluoropropenyl) organometallics, synth, uses, 4271
aryl iodides, from 3,3–dialkyltriazenes and methyl iodide, 2465
bromine, reaction with tricyclo[4.1.0.$0^{2,7}$]heptane, 4461
bromobenzenes with fluorine substits (*p*–F, $–CF_3$, $–OCF_3$) in $S_{RN}1$ reactions with phenols, 3487
catalytic hydro–perfluoroalkylation of acrylates, 4001
chlorocarbons, dehalogenation using tetraethylene glycol, BH_4^- and KOH, 2727
cis–1,3–dibromopropene and homologs, synth, homologation, spiro–alefin synth from, 5861
conversion of alcohols into bromides and iodides *via* tetrahydropyranyl ethers, 1081
diaryliodonium triflates, from trimethylsilyl arenes and iodosyl triflate, 7497
fluoro–alkanoic esters, synth, 2735
hydrofluorination of cyclothymidine, Al–alkyl–promoted, 2091
hypochlorites, photochemical radical β–cleavage, 4725
iodine cleavage of cyclopropylmethylstannanes, 807
iodine(III) compounds, radical decarboxylative alkylation of pyridine–type heterocycles, 6559
iodine(III), 1–diacetoxyiodo–2,4,6–tri–t–butylbenzene, cryst structure, 1327
iodine, hypervalent, $PhI(OCOCF_3)_2$ in phenol to spiro–dienone oxidation, 2035
iodonium salts, alkynyl–I^+–Ph BF_4^-, H–Hal addn to β–halovinyl(phenyl)iodonium salts, 4753
iodonium salts, phenyl β–phenylsulfonylvinyl, nucleophilic substn by halide ion, retention of configuration, 7711
iodosobenzene oxidation of benzenesulfonanilides to quinonimine derivs, 2133
iodosobenzene, catalysed oxidation sulfides to sulfoxides by, 793
N–iodosuccinimide/triflic acid in activation of thioglycosides for nucleoside synth, 3627
pentafluoroallyl iodide, hexafluoropropene, reactions with methine bases, malononitrile, 4595
perfluoroalkyl radicals, generation by $PhTe^-/R_fX$, 7425
phenyliodine(III) bistrifluoroacetate and trimethylsilyl azide for aromatic azidation, 4321
phenyliodine(III) dicyanide, synth, 733
selective *para*–dechlorination of trichloro–diacetanilides, 7191
trifluoromethyl radicals, aromatic substitution by, generation from $CF_3SO_2^-$, 7525
trifluoromethylation of organic halides by $ClCF_2CO_2Me$ with KF/CuI in DMF, 7689

Hazards
butadiene, suggested carcinogenicity, 3461
diazides, αω–alkylene–, warning against distillation, 183
explosion on heating 2–azido–3–hydroxypropyl benzyl ether with KOH, 1283
explosive α–hydroperoxy–diethyl peroxide from tunicate, 4355, 7303

Herbicides
paraquat, ring containing two units threaded by hydroquinone ether, 6235

Heterocyclic ring systems
1,2,4–diazarsoles, arsiranes, 1,3–diarsetanes, 2755
1,3,2–dioxaborinanes, 2–(1,3–alkadien–2–yl)–, synth, uses, 3655
1,3,4–oxathiazol–2–ones, thiofulminic acid and nitrile sulfides in gas phase, 1487
1,4,2–oxathiazolium salts, 3,5–diaryl–, synth, C–13 nmr, 4329
1,4–oxathian–2–one, [2,3]–sigmatropic rearr of *S*–allylsulfonium enolate, 335
1,4–thiazepines, 1,5–benzothiazepines, 643
1,5–ditelluracyclooctane, synth, dication formation, 4537
1,6–diazacyclodeca–3,8–diynes, 1,6–dialkyl–, synth, structures, 2887
1–(α–iodoalkyl)silacyclobutanes, ring expansion to silacyclopentanes, 6383
1–thia–6–azacyclodeca–3,8–diynes, 6–methyl–, 6–tosyl–, synth, transannular reactions, 2883
1*H*–pyrrolo[1,2–*a*]indoles, 3–(2–indolyl)–2,3–dihydro–, 1587
5*H*–dibenzo[*c*,*f*]azonine, 6,7,8,13–tetrahydro–6,13–methano–10,11–dimethox y–14–spiro–(3–cyclohexene)–, 619
3,6–dihydro–1,2,3,6–dioxadisilin, 1,2,5–oxadisilol–3–ene systems, by oxygenation of disilet–3–ene, 6605
azepino[4,5–*b*]indoles, hexahydro–, from tryptamines and α–bromoaldehydes, 619
cyclotrisilathiane, hexamethyl–, reaction with alkyllithium, use, 2189

mesoionic 2,5–diaryl–1,3–dithiolylium–4–olates from thermolysis of 4–aryl–1,3,2–oxathiazolylium–5–olates, 4023
pyridine, 2,2′–bipyridine, 2,2′;6′,2″–terpyridine, 1,10–phenanthroline, 1,8–naphthyridine, ethynyl–substituted, 757
tetraselenastannolane, 5,5–diaryl–, synth, x–ray, 6151
tetrathiagermolane, 5,5–diaryl–, reaction with diphenyldiazomethane, tetraaryl–tetrathia–germacyclohexanes, 6143
see also Bicyclic heterocyclic compounds, Polycyclic heterocyclic compounds, *and* the individual ring systems

Hormones
atrial natriuretic factor, synth portion 7–23 with polymethylene substitution of tetra–residue sequences, 7735
ecdysone biosynth inhibitor, synth acetylenic 5α–analog, 5171
glucagon, mammalian, convergent solid–phase synth, 577
oxytocin, α–hCGRP, cysteine oxidation in synth, 1223
thymopoietin, pentapeptide component synth, 327

Hydrazides
N,N′–diacylhydrazine dienolates, [3,3]–rearr to succinamide dianions, 4517

Hydrazines
di(allyloxycarbonyl)–hydrazines, synth, Pd(0)/Bu_3SnH deprotection, 6629
ethyl hydrazinoacetate, selective N(α)–protection in synth peptidomimetic hydrazides, 2765
methyl–, ANRORC in reaction with 4–benzoylisoxazole–3–carboxylic ester, 3229
synth by cycloaddn azocyanides, azodiformate, to dienes, 907

Hydrazones
2–(*p*–toluenesulfinyl)aldehyde *N,N*–dimethyl–, displacement of ArSO– group by RS–, 2237
2–ethoxy–2–butenal *N,N*–dimethyl–, cycloaddn to quinoline–5,8–quinones, 1307
asymmetric α–aminoaldehyde synth from glyoxal chiral monoaminal mono–dimethylhydrazone, 1171
biphenyl 2,2′–dicarbaldehyde bis–tosylhydrazones, phenanthrenes from, 3025
from 1–amino–*trans*–2,3–diphenylaziridine, $LiAlH_4$ redn to hydrocarbons, 1691
hydrolysis of by baker's yeast, 2657
semicarbazones, carbonyl compound regeneration using $CuCl_2.2H_2O$ in acetonitrile, 5829
unsaturated acyl–, intramol cycloaddns, 125

Hydrindanes
2–methylene—4–ones, synth by radical cyclization from 1–propargylbicyclo[4.1.0]heptan–2–ones, 6211
4,5–didehydro–, synth in tandem Pd–cyclization anion capture, 2545
4–methylene—1–ols, synth using $SnMe_3$ as directing group, 5219
7a–methyl–6–methylene–*trans*–hydrindan–1–one, steroid synthon, synth from (*R*)–limonene, 6885
cathodic coupling halofluoro–compounds with aldehydes, products of further reduction, 6567
de–A,B–8β–benzyloxy–25–hydroxyergost–22–ene, intermed in synth of vitamin D_2 metabolites, synth from ergocalciferol, 5397
hydrindenones, bio–hydroxylation by *Rhizopus arrhizus*, 3573

Hydrocarbons
benzene, alkylbenzenes, superbases RLi–ROK for lithiation of, 1483
from aldehydes, ketones, by $LiAlH_4$ redn aziridinohydrazones, 1691
toluene hydroxylation by *Pseudomonas putida*, 1671

Hydrogenation
asymmetric – using BINAP–Ru(II) catalysts, 4163
asymmetric Ru–catalysed, in synth glyceryl 1,3–diethers, 4381
asymmetric, of itaconic acids using chiral Rh complexes, 3671
asymmetric, using chiral Rh(I) complex, 4745
catalysis of – of conjugated double bonds by ferrocenylamine–sulfide Pd(II) complexes, 5489
enantioselective – of β–ketoesters using BINAP–Ru catalyst at 50 psi, 4227
homogeneous catalyst for, chiral Ru complex of 2,2′–bisdiphenylphosphino–1,1′–binaphthyl, 3101
hydrogenation of olefins, aldehydes, α–ketoesters, (μ–hydridodichromium decacarbonyl)$^-$ catalysis, 1199
palladium catalysts for – of fluoroalkenoic esters, 2735
transfer, for removal TBDMS groups from carbohydrates, 187

Hydrogen bonding
association between *N*–benzyloxycarbonyl–L–glutamic acid and 2,2′–(6–methylpyridine–2–aminocarbonyl)–9,9′–spirobifluorene, 5309
base–pairing in 18–crown–6 uridine and adenosine analogs, 1821
base–pairing in polynucleotide chains containing cytosine 2′–deoxy–L–riboside units, 2573
bicyclic guanidinium receptors, extraction of adenine monophosphate nucleotides, 1827
complexation of ureas and formamides by polycyclic cleft–structured diamides, 4185
dihydroxycalix[4]arenes, influence of – on solution conformation, inversion barrier, 5155
H–bonding to Schiff's base in serine and threonine glycosidation, 585
intramol – in oligoamides *in vacuo*, MM studies, 3613, 3617
intramol – in polyamide systems, MM calcs, 7377
intramol, in acylhydrazide peptide analogs, 2765
thiourea to poly–ether bi–nitroxide, effect on conformation and ESR, 2021

Hydrogenolysis
acyldimethylsilanes, to aldehydes, Pd–catalysed, 457
dihydro–dideacetoxylation of sugar lactone 2,3–diacetates by H_2/Pt/Et_3N, 4963
of fused 5–alkoxycarbonyl–4–isoxazolines to pyrrolin–2–ones, 2779
stereosel – by $Pd(OH)_2/H_2$ of 2,5;3,4–dianhydroaltritol, 5273

Hydrolysis
1,2,4,3–triazaphospholes, 1,3,2–benzodiazaphospholes, spiro–P(V)– derivs, 501
acetals, catalysis of by polymerised micellar surfactants, 1881, corrigendum, 4056
hydrolysis of oligonucleotides by cyclic deca–and tetradeca–peptides, 5337
lactone hydrolysis by $A_{Al}2$ mechanism, 2331
of 2,4–dinitrophenyl sulfate in hydrophobic environments and methylated β–cyclodextrin, 2205
selective, of galactolipids, by lipase from *Rhizopus arrhizus*, 1331

Hydroxamic acids
acet—, benzyloxycarbonyl–, oxidation and nitrosyl trapping by dihydroxycyclohexadienes, 6077
N,O–dimethyl—, cyclic ketones from, 721
N–aryl–*O*–acyl –, synth of oxindoles by rearr of silyl enol ethers of, 2671
N–methoxy–*N*–methyl cyclopropanecarboxamides, 1275
N–methoxy–*N*–methyl dimethylphosphonylacetamide, in enynone synth, 1279
N–subst –, by reductive acylation of oximes, 4137
O–methyl α–allyloxycarbonylamino—, synth, simultaneous deprotection/acylation, 6633
oxidation to RCO–NO by Me_2S^+–(*N*–succinimidoyl) chloride, 5349

Hydroxylamines
chiral –, nitrones from 5–alkenals and, enantiosel intramol cycloaddn, 4431
from nitroalkanes by reduction with SmI_2, 1699
hydroxylamine by dioxirane oxidation of amino–sugar, 1851
hydroxylamino–sugar, abs config in esperamycin, synth, 1851
L–N^G–hydroxyarginine, synth, N–15–labelled, 875
N,O–diacyl–*N*–aryl–, rearr, oxindoles from, 2671
N–(bromoacetyl)–*N,O*–dimethyl–, Reformatsky reaction and elaboration to β–silyloxy–ketone, 2525
N–(dialkylphosphinoyl)—, *P*→*N* alkyl migration of *O*–*p*–nitrobenzenesulfonates, 4769
N–, *O*–alkyl–, addn to 5,6–dihydroquinoline, 6789
N–carboxyalkyl–*N*–phosphonomethyl—, synth enzyme inhibitors, 2711
N–methyl *O*–nitrobenzenesulfonyl –, for conversion of acetals into *N*–methyl amides or lactams, 2429
N–phenyl–*O*–acyl—, anionic rearr to *o*–aminophenylacetic acids, 2803
N–t–butyloxycarbonyl–*O*–tosyl—, lithium salt for BOC–amination of organometallics, 2359
O–allylic –, by [2,3]–sigmatropic rearr of allylic amine oxides, 4481
O–benzyl–*N*–β–hydroxyalkyl—, by reductive coupling using SmI_2, 3555
O–methyl–*N*–2–hydroxyalkyl–, synth in pinacol–type reaction; reduction to β–aminoalcohols, 525
O–t–butyldiphenylsilyl—, *N*–acylation and *N*–hydroxy–β–lactam formation using, 2577
synth by addn of aryllithium reagents to *N*–tetrahydropyranylnitrones, 3783

Hydroxylation
allylic – of octalones by fungi, 647, 651
allylic – using SeO_2/t–BuOOH/ultrasound, 6203
allylic alcohol to triol, stereosel, 509
asymm di— of steroidal αβ–unsat ester, 6745
asymmetric, by catalytic OsO_4/dihydro–quinine/quinidine with ferricyanide reoxidation, 3965
β–ketoester enolate, asymmetric – using oxaziridines, 867
bio— of hydrindenones by *Rhizopus arrhizus*, 3573
bis– by OsO_4 of methyl glucal–1–carboxylate, stereochem, 2565
catalytic enantiosel – of olefins using 9–*O*–arylated dihydroquinine and analogs, 5761
catalytic osmylation of 1,3–dienes to 1,2,3,4–tetrols, 1003
catalytic, of alkanes, manganese cluster for, 1153
cis–di— of cyclobutenes by OsO_4, stereochem, 2659
di– by osmylation $Fe(CO)_3$–complexed trienyne, 635
diastereosel – of conduritol B deriv, 7309
diterpenoid, sclareol – by *Mucor plumbeus*, 1783
enantiosel hydroxylation of 2–ethyl–5–methoxy–1–tetralone enolate by (+)–dichlorocamphorylsulfonyl oxaziridine, 7671
enantioselective catalytic OsO_4/NMO – with quinine copolymer, 5175
microbial – of octalin–1–one derivs, 1983
microbial, of dihydrobenzocyclobutene, indane, tetralin, tetrahydrobenzocycloheptene, biphenylene, fluorene, 9,10–dihydroanthracene, by *P. putida*, 3887
vitamin D_3, SeO_2/pyridine *N*–oxide for 1β—, 6057

Hyperconjugation
negative, unimportant in α–fluorosulfides, 1467

Imidazoles
1*H*–4,5–dihydro–, chiral, from 1,2–cyclic sulfates, 999
2–(subst amino–), by rearrangement *N*–cyano–*N'*–vinylhydrazines, 907
2–amination via diazo–coupling, 1419
2–dimethylamino—, and corresp 4–imidazolinone and 4,5–dione, synth, indole derivs of, 5325
4,5–dihydro—, substitution of an amide link in dipeptides, 2277
4,5–dihydroimidazolium salts, synth, 5031
5–(alkoxymethylene)imidazoline–2,4–dione, from Rh–catalysed ring contraction of 6–alkoxy–5–diazodihydrouracil, 3799
ammonoxidative route from aryl aldehydes and benzyl ketones, 1007
bis(dihydroxyphenyl)imidazolylmethane, catalysis of ester hydrolysis by, 4757
C–13 labelling study of allantoin formation from uric acid by chemical, peroxidase, and uricase oxidation, 7477
C4–linked – 2'–deoxynucleonucleosides, 6485
chiral 4,5–diphenyl–2–(3–pyridyl)–tetrahydro—, in indoloquinolizidine synth, 3981
cleavage of ring in histidine to asparagine residues by Ru(VIII), 5615
girolline, enantiosel synth 4–subst 2–amino—, 4905
girolline, sponge alkaloid, diastereosel synth, 1419
imidazolidin–2–one, *trans*–4,5–tetramethylene, difunctional chiral auxiliary, 4787
imidazolidin–2–ones from imidazolidine–2–thiones and from 1,2–diamines and carbonyl sulfide, 1,3–diacyl—, chiral auxiliaries, 4791
imidazolidin–2–ones, *trans*–2,5–disubst, in enantiosel synth of α–aminoacids, 1971
imidazolidin–4–ones from alanines, synth of dimethyl tetrahydroisoquinoline–3–carboxylic acids from, 5769
tetra–2,4–imidazolylene di–carbonyl di–*m*–phenylene mcrocycle, pmr, nOe, 3333

Imides
1,2–dione di–alkylimines, α–alkylation, 3879
1–piperidinocyclopropyl ketimines, pyrroles from, mech, labelling study, 7127
2–(phenylthio)maleimide, from *N*–hydroxy–2–(phenylthio)–succinimide by MsCl/Py/toluene, 6093
dichlorolissoclimide, labdane deriv from ascidian, 6701

maleimide deriv, Wittig synth from α–ketoester, 2399
N–(hydroperoxyalkyl)phthalimides, photochem cleavage by intramol energy transfer, 2949
N–alkyl–2,3–bis(bulky–silyloxy)succinimides, asymm induction in reaction with Grignards, 3401
N–fluoro–1,2–benzenedisulfonimide, synth of, fluorination by, 1631
N–trimethylsilylmethyl αβ–unsat –, rearr to *N*–trimethylsilyl–2–pyrrolines, 5093
phthalimides from amines and 3–(dicyanomethylene)phthalide, 3449
phthalimides, conversion into *o*–pyrrolidinocarbonylbenzamides reverses acid/base stability, 3301

Imidic acids, imidates
1–hydroxypyridine–2–thione imidates, radicals from, 1035
methyl *N*–bromobenzenesulfonyl –, from enol ethers and brosyl azide, ultrasonic acceleration, 2457
trichloroacetimidates with TMSOTf for α–fucosylation of disaccharides, 3353

Imidoyl halides
iodides, Pd–catalysed coupling to alkenes, alkynes, 1459

Imines
αβ–unsat imine anions, reaction with Michael acceptors, 4683
activated, reaction with lactam enolate, 2679
aldimines, reaction with t–butyl 3–aryl–2,3–dioxopropanoates, pyrrolin–3–ones, 6039
arylaldehyde 4–methoxyphenyl–asymm addn of organolithiums, 3095
β–arylazo–α–cyanoacraldimines, intermeds in rearr of azido–pyrazoles, 3565
β–lactams from, using acids and Mukaiyama reagent, 581
benzophenone Schiff bases from glycine esters, Michael addns of, 3727
benzylideneaniline, cond with *N*–benzyl–*N*–aryl t–amines, 1617
butyl *N*–tosyliminoacetate, cycloaddn to 1,3–diene, 1649
camphor phenylsulfonyl–, α–fluorination by *N*–fluoro–1,2–benzenedisulfonimide, 1631
chiral (salen)Mn(III) catalysts for epoxidation of olefins by PhIO, 1055
condensation with α–mercapto–acids, –esters, thiazolidin–4–ones from, 383
cyano–, in synth pyrimidine derivs, 691
cycloaddn to silyloxy–dienes, *cis*–octahydropyrindin–4–ones from, 491
glyoxal bis(diphenylmethylimines) and bis(α–phenylethylimines), chiral 1,2–diamines from latter, 5865
glyoxal bis–anil, cycloaddn to ketenes, 803
N–anisyl α–keto— chiral acetals, diastereosel addn of ester enolates, synth β–lactams, 7563
N–arylidene 3–aminopropenal, $ISiCl_3$–promoted reaction of ArCHO with acrylonitrile, 5421
N–silyl imines, aziridines from α–haloester enolates and, 121
N–trifluoromethyl–*C*–alkynyl– and *C*–alkenyl–, 1459
N–trimethylsilyl–aldimines, α–TBDMsilyloxy–, addn of organo–MgX, –Li, stereochem, 2967
stereoselectivity of cycloaddn to fluoroketenes, 5461
see also Schiff bases

Iminium salts
iminium cation from oxime/triflic anhydride, insertion into C–H bond, 5071

Immunodeficiency
anti–HIV, oxetanocin A analogs, 2–des(hydroxymethyl)– and its α– and β–2–hydroxy– derivs, 3531
HIV–1 protease inhibitors, C_2–symmetric 1,4–bis(amido)–2,3–diols, 5729

Immunosuppressive compds
FK 506, synth C1–C22 fragment, 2909
FK–506 analog, synth from rapamycin fragments, 4627
FK–506 C–10–acetamido–analog, 1375
FK–506, synth C20–C34 fragment (top half), 547
FK–506, synth of C10–C34 fragment, 4631
FK–506, synth of lower half, 1251
synthesis C(10)–C(20) fragment of FK506, 53

Inclusion
2,7–bis(trimethylammoniomethyl)naphthalene, nmr in a polyanionic cyclophane, 7295
alcohols and amines in an indazolinonyl phosphinimine, 2521, corrigendum, 4056

Indanes
1–acyl–2–indanones, by rearr benzyne–furan cycloadducts, 851
2–acetyl—1,3–diones by $AlCl_3$–catalysed co–oligomerization of aroyl and acetyl chlorides, 2153
2–arylideneindane–1,3–diones, cycloaddn of ynamines, 4051
2–benzyloxycarbonylamino—, synth, 4045
2–hydroxy–, by photochem cyclization β–(2–ethylphenyl)acetophenones, stereochem, 165
3–aminoindan–1–ones, alkoxy–, synth by Friedel–Crafts cyclization β–acylamino–β–arylsuccinic acids, 6327
from 2–propargylacetophenones by photochemical cyclization, 31
microbial hydroxylation to (*R*)–1–hydroxy—, 3887
synth by tandem Pd–catalysed cyclization 2–iodohept–1–en–6–yne and coupling to alkyne, 4167

Indenes
1*H*–2,6,7,7a–tetrahydro—4–carboxylic ester, 2,2,5–trimethyl–, synth by Pd–catalysed tandem carbonylation and intramol cycloaddn, 7687
5*H*–2,3,6,7–tetrahydroinden–6–ones, by cyclization and rearr of diazo–enynone with alkyne, 3755
6,7–epoxy–3,3a,6,7–tetrahydroinden–2–ones, from $^1O_2$ and phenylallenes, 1859
addition of *N,N*–dichlorocarbamate and further manipulations, 4045
by cyclization of *o*–allyl– and –vinyl–arylcarbenes, 983
t–alkylation under phase transfer conditions, 5773
tetra– and hexa–hydro 4– and 4–nitro–, from cycloaddns of 2–nitro–1,3–dienes, 2517

Indoles
1–benzenesulfonyl—3–carbaldehyde, azomethine ylid from, tandem cyclization to fused γ–carboline, 1359
1–benzyl–2,3–diphenyl–, synth by photocyclization of *o*–dibenzylamino–benzophenone HCl, 3915
2–(α–cyanovinyl)—, β–addn of organometallics, 7237
3–(2′–dimethylamino–4′–oxoimidazol–5′–ylidene) indol–2–one, 3–[(2′–dimethylamino–4′–oxoimidazol–5′–ylidene) methyl] indole, synth, 5325

3–(3–hydroxy–3–methylbut–1–enyl)–, dimerization to yuehchukene, 1045
3–spiro–oxindoles, free–radical synth in approach to gelsemine, 4099
3–subst – from 2–(*o*–nitrophenyl) nitriles, 7195
3–subst with 6–oxopyrazin–2–ylmethyl group, mould metabolite, synth, 6019
3a–aryloctahydroindol–4–ones, synth, 5183
6–methoxy–4,7–quinone deriv, synth, chemistry of, 2035
annelated – by Pd–catalysed cyclizations, 3317
from *N*–propargyl *o*–bromoanilines, SmI_2–induced cyclization, 1737
fused, by pyrolytic rearr quinoline deriv, 801
fusion of pyran ring to *e* bond, Claisen rearr of 5–allyloxy–, 3347
hexahydro–, synth in tandem Pd–cyclization anion capture, 2545
indole, condensation with 2–cyano–3–piperideine deriv, 5413
long–range nmr couplings in BE 10988, a 3–(2–thiazolyl)indole–4,7–quinone, 2791
N–benzoyl—, photocycloaddn to olefins, mech, trapping of radical intermeds, 4107
N–methyl–, charge transfer complexation and substitution into by $(CF_3)_2C{=}C(CN)_2$, 1871
N_b–methyltryptamine, reaction of Grignard reagent with isopentenyl bromide, synth (±)–deoxypseudophrynaminol, 7641
Pictet–Spengler cyclizations in, 175
pyrrolo– and pyrimido–fused, from ethyl α,*o*–diazidocinnamate, 4401
pyrrolo[3,2–*e*]– and pyrrolo[2,3–*f*]—, synth and polymers from, 5035
reaction with 2–cyano–3–cyanomethyl–1–methyl–3–piperideine, synth reduced pyrido–carbazoles, 7449
reaction with ketones in MeOH/HCl; 2:2 products, 1587
synth by reductive cyclization of *o*–acetamido–benzophenones, 6695
3–(1,2,5,6–tetrahydro–1–methylpyrid–4–yl)–, reactions with dienophiles, 1771
trans–3–(2–hydroxycyclohexyl)—, retention of sterochem in Mitsunobu reaction with, 3779
tryptamines, azepino[4,5–*b*]indoles from with α–bromoaldehydes, 619
tryptophan, *N*,*N*′–ethylidenebis–, identity with "contaminant 97", 991
unsubst and *N*–methyl–, Friedel–Crafts carboxyalkylation, 6171

Indolines
1,2,3,3a,7,7a–hexahydropyrrolo[2,3–*b*]indole, 1–methyl–3a–(3–methyl–2–butenyl)–, one–step synth from N_b–methyltryptamine, 7641
3–acyl–3–alkyloxindoles, formation by aryne cyclization, 6993
3–hydroxy–1,1–dimethyl–2,3–diphenylindolinium ion, by photocyclization *o*–trimethylammonio–benzophenone, 3915
citreoindole, metabolite from *Penicillium citreo–viride* hybrid strain, 6883
dopachrome, mech of aromatization to 5,6–dihydroxyindole, 3849
from *N*–allyl *o*–bromoanilines, SmI_2–induced cyclization, 1737
indoline–3–spiro–maleimide, approach to alkaloid synth, 6129
oxindoles, synth by rearr of silyl enol ethers of *N*–aryl–*O*–acyl hydroxamic acids, 2671

Indolizines, indolizidines
(±)–δ–coniceine, indolizidine alkaloid, synth, 5051
(±)209B, 8–methyl–5–pentylindolizidine frog alkaloid, synth, 5889
(+)–monomorine I, indolizidine ant pheromone, synth from (*S*)–pyroglutamic acid, 3365
(–)–slaframine, indolizidine alkaloid, enantiosel synth, 6469
6,7,8–trihydroxy–5–hydroxymethylindolizidine, synth, pmr, glucosidase inhibition, 5853
6–*O*–acylcastanospermine, acyl migration between adjacent OH groups, 4669
8–amino–3–oxo–, model for conformationally restricted ornithine pseudodipeptide, 1089
benz[*f*]indolizin–5–one, tetrahydro–, by radical cyclization, 1035
castanospermine modification to 6–acetamido analog, 719
indolizidin–5–one synth by transannular reaction, (±)–epilupinine synth, 5709
synth (+)–castanospermine, tetrahydroxy–indolizidine alkaloid, 4147

Infrared spectra
matrix–isolated heptacarbon dioxide, 4469
methyl isocyanoacetate Ag–complexes, ν(C≡N) region, 2799
study of intramol H–bonding in acylhydrazide peptide analogs, 2765

Inositols
5–phosphonate analogs of —1,4,5–trisphosphate, synth, 6021
affinity probe for ins(1,3,4,5)P_4 receptors, 1623
chiro–inositol deriv as chiral auxiliary in α–ketoacid reduction, 1335
D–4*C*–methyl–*myo*–, (–)–lamnitol synth from toluene, 1671
D–*chiro*– and D–*myo*–, synth *via* cyclitols from methyl α–D–glucopyranoside, 2501
D–*myo*— 1–phosphate, from *myo*— *via* mono–camphor acetal, 4031
D–*myo*–inositol D–camphor 2,3–acetal, synth 1,4,5–trisphosphate, 1,4–bisphosphate, 6167
fluoromethylphosphonate cyclic ester analog of *myo*–inositol 1,2–cyclic phosphate, phospholipase inhibition by, 2207
glycobiosyl phosphatidyl –, synth, 101
glycophosphatidyl anchor of *Trypanosoma brucei*, synth, 671
L–quebrachitol, chiral polyol–acid from, 1063
myo–, conversion into conduritol B tetraacetate, 2471
myo— from 7–oxanorbornen–2–one, *via* protected conduritol B, 7309
myo–inositol hexaphosphate (phytic acid), tethered by 2–*O*–(*–aminoalkyl) groups, 1863
myo–inositol phospholipid, phosphonate analogs, 955

Insecticides
insecticidal activity of open–chain milbemycin analogs, 1719
rotenone–isorotenone rearr in deuterated acid, mech, 7337

Insects
ant *Solenopsis xenovenenum* defensive secretion, xenovenine synth, 5543
Apis mellifica queen substance, (*E*)–9–oxodec–2–enoic acid, synth using silyl ketene acetals, 7253
beetle *Pholacantha synonyma*, synth phoracantholide, defense secretion, 5585
Helicoverpa zea, corn earworm, growth suppressant leporin A from fungi, 5687
Monomorium minutum ant venom, synth pyrroline precursor and pyrrolidine constituent, 7521
precocenes I, II, one–step synth, 7251
stick insect *Anisomorpha buprestoides*, carotenoid egg pigments, 5651

Insertion reactions
aldehydes, ketones, into
1,1–bis(η^5–cyclopentadienyl)–2,3–dimethyl/diphenyl–1–titanacyclobutene, 1687
oxygen into C–H bond, alcohol oxidation by dioxiranes, 533
sulfur, into non–activated C–H bond under oxidizing conditions, 2351
tandem olefin – into C–Pd bonds in carbacyclin synth, 5911

Ionophores
chromo—, indoaniline–calix[4]arenes, sodium–selective, 7419
lariat ethers, mono–aza crowns with various side arms, extraction and homogeneous binding constants, correlation with Na^+ transport, 6269
sterically switched polyethers, acetal hydrolysis releasing complexation, 35

Iron and compds
allyl cyclopentadienyl iron(II) dicarbonyl, homoallylic alcohols from ketones with, 4639
allyl(cyclopentadienyl)iron(II) dicarbonyl, BF_3 promoted addn to aldehydes, homoallylic alcohol synth, 3001
catalytic systems (Gif, Go–Agg) for S insertion into C–H bonds, 2351
cross–conjugated cationic pentadienyl —tricarbonyl complexes, reactivity, 7047, 7051
$Fe(CO)_4$–complexed γ–acetoxycrotonates, BF_3–catalysed nucleophilic subst by enol ethers in, 1141
η^2– and η^4–iron carbonyl complexes of fumaraldehyde, 7259
iron thiocarbene complex, substitution at lithiated C and cyclopentane cyclization, 5753
iron tricarbonyl complexes, asymm polyene synth using, 5265
methoxycyclohexadienyl $Fe(CO)_3^+$ complex in (±)–*O*–methyljoubertiamine synth, 1291
osmium dihydroxylation of $Fe(CO)_3$–complexed trienyne, 635
π–allyl $Fe(CO)_3$ lactone complex, valilactone, β–lactone synth, 2651
π–allylirontricarbonyl lactam complex from proline–derived lactone, pyrrolizidines from, 7119
p–nitrobenzoyloxyethyl–η^5–cyclohexadienyl–tricarbonyl, spiroannelation with arylamines, 1953
pentadienyl iron tricarbonyl cations, alkylation by Cu–Zn complex reagents, 113
racemic
η^5–cpd–(CO)[$P(OMe_3)$](thf)Fe^+ as Lewis acid catalyst in Diels–Alder reactions, 5299
trimethylcyclohexenylmethyliron tricarbonyl, intramol π–allyl complex, synth, structure, chemistry, 6101

Isobenzofurans
1,3–diphenyl–, cycloaddn to arynes, 6735
3–(dicyanomethylene)phthalide, pseudoanhydride, 3449
cycloaddn to 7–oxabicyclonorbornene homologs, 1889
from fused furfuryl propargyl ether in synth pentacyclic xestoquinone precursor, 4761

Isocyanates
3,4–dihydro–1–naphthyl—, cycloaddn to benzyne, 5757
aryl –, reactions with a bis–triphenylphosphinimine, 5379
chlorosulfonyl – cycloaddn to allylsilanes, 2265

Isocyanides
2–isocyanoallopupukeanane, 4α–isocyano–9–amorphene, sesquiterpenoid –, 7291
isocyanoacetate, isocyanomethanephosphonate esters, in Passerini condn forming azinomycin fragment, 3807
methyl isocyanoacetate, Ag(I)–catalysed asymm aldol reaction, oxazolines from, 2799
methyl isocyanoacetate, oxazoline prep using in cuanzine synth, 4491
ptc alkylation of tosylmethyl –; electrochemical detosylation of derivs, 5539

Isoindoles
1,3–dihydro–, synth by Pd–catalysed coupling reaction, 4167
isoindol–1(3*H*)–ones, by intramol Heck reaction, 687
isoindolin–1–ones, benz[*e*]isoindolin–3–ones, synth by intramol cycloaddn of *N*–propargyl nicotinamides, isoquinoline–1–carboxamides, 5481

Isomerisation
(*E*)–(*Z*), of γ–(trimethylsilyl)allylboranes, 3029
1,3— of chiral γ–silyloxy allylstannanes, stereochem and absolute config, 2101
diastereo—, of diastereotopic Me groups in *cis*–3–benzyloxycyclohexyl chlorodimethylstannane, mechanism, 4945
double–bond – of 9,14–dimethyl–10,11,12,13–tetradehydro[19]annulenone in acid soln, 5129

Isoquinolines
1,2,3,4–tetrahydro–1–lithio–2–subst–, SET mech and stereochem of addn to carbonyls, 1941
1,2,3,4–tetrahydro–1–methylsulfinyl–, chiral synth, 6861
1,4–dihydro–1,4–[1]propeno– and analogs, by intramol cyclization α–azidocinnamates with 1,3–diene groups, 1413
1,4–dihydro–2*H*—3–ones, synth by radical formation 4–4a bond, 2829
1–(*o*–bromobenzyl)–tetrahydro–, Bu_3SnH radical cyclization to aporphines, 529
2,3–dihydro– and 1,2,3,4–tetrahydro–8–methoxy–, synth, 1965
3,4–dimethyl 1,2,3,4–tetrahydroisoquinoline–3–carboxylic acid enantio/stereoisomers, 5769
5,8–quinone, cycloaddn to 2–ethoxy–2–butenal *N,N*–dimethylhydrazone, 1307
enzymic reduction protoberberine alkaloids, 487
isoquinolin–1–ones, dihydro–, by intramol Heck reaction, 687
N–allyl–, –propargyl– —1–carboxamides, intramol Diels–Alder reactions, 5481
papaverine, norreticuline derivs, by modification of Pomeranz–Fritsch synth, 1775
tetrahydro–, asymmetric Pictet–Spengler synth, 2995

Isoquinuclidines
1–methoxycarbonyl–1,2–dihydropyridine – methyl acrylate adduct, gabaculine, shikimic acid homologues from, 951
by sulfurisation of isocyanides, selenium–catalyzed, 3503

Isothiocyanates
chlorosulfonyl –, with aminoacid esters forming 1,2,5–thiadiazolidin–3–one 1,1–dioxides, 6545
selenium–catalyzed sulfurisation of isocyanides, 3503

Isotope effects
kinetic – in radical oxidation reactions, 3811
primary kinetic H— in homolytic H–shift on rearr of 6,6–difluorobicyclo[3.1.0]hex–2–ene, 3933
primary, in rearr of dopachrome to 5,6–dihydroxyindole, 3849

Isotopic labelling
deuteriation on reductive rearr dynemycin A to dynemycin H, 6007
Rh–catalysed rearr of 6–alkoxy–5–diazodihydrouracil, ^{15}N study, 3799

Isoxazoles
3–phenyl–4–nitro—5–carbonyl compds, cycloaddn to ynamines and rearr to isoxazolo[4,5–*c*]isoxazole derivs, 6223
4,5–dihydro–4,5–dimethylene–3–phenyl–, generation, trapping, 4603
4–benzoyl—3–carboxylic ester, ANRORC in reaction with methylhydrazine, 3229

Isoxazolidines
4–methylene–, by addn of nitrosobenzene to trimethylenemethane deriv, 4383
cycloserine derivs of squaric acid, 3767
fused, by intramol cycloaddn of nitrones from 5–alkenals and chiral hydroxylamines, 4431
fused, by tandem [2,3]–sigmatropic shifts and cycloaddns, 279
steroidal –, rearrangements, interconversions, perhydro–1,3–oxazines from, 7605

Isoxazolines
2–isoxazolines, 5–(diphenylphosphinoylalkyl), synth homoallylic amines *via*, 4171
fused 4— by intramol [3+2] nitrone–alkyne cycloaddn, fused pyrrolin–2–ones by hydrogenolysis, α–keto–βγ–unsat esters by mCPBA oxidation, 2779
fused 4— to 4–azahomoadamantane, 4965
fused to 5– and 6–membered rings, diastereoselection in intramol nitrile oxide cycloaddn to olefins, 4259
isoxazolin–5–ones, 3,4–disubst, acetylenes from by action of $NaNO_2/FeSO_4$, 5321

Ketals
see Acetals

Ketenes
acetals by PTC elimination from bromoacetaldehyde acetals, 1539
acyl– acetals, chiral, diastereoselectivity of addns to, 461, 465
see Acetals
acyl–, generation, trapping by cyclo– and alcohol addn, 4091
aryl–nitrosothio—, generation and formation of mesoionic 2,5–diaryl–1,3–dithiolylium–4–olates from, 4023
by thermolysis of 1–pyrazoline–3,5–diones, matrix irradiation to carbenes, 1961
dichloro–, cycloaddn to olefin, 767
dichloro–, two–carbon homologation of silyloxy–bicyclo[3.3.0]octenes to hydro–azulenones by, 6011
dichloro—, cycloaddn with rearr to 2–azabicyclo[2.2.1]hept–5–ene system, 7233
diphenyl–, reaction with a bis–triphenylphosphinimine, 5379
fluoro—, stereosel azetidinone synth using, 5461
from acid chlorides in 4–formylazetidin–2–one synth, 803
generation from acids using Mukaiyama reagent, 581
hydroxyketene glycoside in hydroxy–β–lactam synth, 1039
methoxy(methoxycarbonyl)–, generation, carboxycarbene addn, 995
o–alkynylphenyl–methyl—, generation, cyclization, 5923
trimethylsilyl–, stability, reactivity, 847

Ketenimines
intermediates from ketenes to homoallylic nitriles using allylic iminophosphoranes, 4041
N–allyl–, intermediates in aza–Claisen rearr, 179
N–phenyl–bis(diethylphosphonato)ketenimine, synth, reactions, 4279

Keteniminium salts
protected α–hydroxy–, α–imino—, cycloaddn to olefins, Baeyer–Villiger cleavage of addducts, 3827

Keto–acids, –esters
(*E*)–9–oxodec–2–enoic acid, honey bee queen substance, synth using silyl ketene acetals, 7253
11–formyl–7–oxoundecanoic ester, and di–, tetra–Me derivs, from cyclohexanone aldol, rearr, and ring–cleavage, 7559
2,3–dioxopent–4–enoic ester in synth (±)–vasicine, pyrrolo–quinazoline alkaloid, 7131
α,γ–dialkylidene–β–ketoesters, synth, 7731
α—acids, stereoselective addn of crotylboronates, 5677
α–keto–acids, addn to allylboronic esters, 4619
α–keto–esters, reduction by baker's yeast in benzene, 7075
α–ketoester, Wittig synth of maleimide deriv from, 2399
α–methyl α–(1–methylprop–2–enyl) acetoacetic acid, synth *via* Carroll rearr, 6421
α–methyl–β— esters, effect of $ZnCl_2$, $CaCl_2$, $MnCl_2$ on stereochem of BH_4 reduction, 6147
acetoacetate, $CoCl_2$–catalysed condensation enolisable aldehydes with, 1663
asymmetric hydroxylation β–ketoester enolates by camphorsulfonyl oxaziridines, 867
β,δ–diketoesters, chiral reduction with Ru–binap, asymm synth 6–methyl–5,6–dihydropyran–2–one, 7699
β—, stereoselectivity of reduction by heat–treated baker's yeast, 2927
β–keto–esters, LiI–catalysed addn to enones, 5373
β–ketoesters, asymmetric benzoyloxylation *via* lithio–enamine from (*S*)–valine t–butyl ester, 5899
β–pinene–derived, chiral Lewis–acid–catalysed Diels–Alder reactions of, 2005
Baeyer–Villiger oxidation of β—, 2413
βγ–unsat–α—, synth and Diels–Alder reactivity, 1765
coupling to acetals, $TiCl_4$–mediated, of β–keto–esters, –amides, 3635
dienyl β–ketoesters, synth by carbopalladation of allenes, 1795
enantiosel reduction of β— using BINAP–Ru catalyst at 50 psi, 4227
γ–amino–β–ketoesters by condn *N*–aryl–α–aminoacid *N*–carboxy–anhydrides with ester enolates, 3115
hydrogenation of α–, (μ–hydridodichromium decacarbonyl)$^-$ catalysis, 1199
isopropylidene derivs of β—, 2,2–dimethyl–1,3–dioxin–4–ones, phosphorylation in α–posn of 6–alkyl group, 2581
oxidative decarboxylation of allyl β–ketoesters, Pd(II)–cat, myrcene condn with Me acetoacetate, Rh(I)–cat, 1433
reduction α–keto– to α–hydroxyacid, *chiro*–inositol deriv chiral auxiliary, 1335
t–butyl 3–aryl–2,3–dioxopropanoates, reactions with aldimines with benzilic acid type rearrs, 6039

Ketones
1,2–diol diacetates from, using $BrCH_2OCOMe$ and SmI_2, 2433
α,α′–dihydroxy—, enzymic synth from aldehydes and hydroxypyruvate, 5085
α–hydroxy—, addn of allylboronic esters to, stereocontrol in, 1945
α–hydroxy—, enolate oxidation by dioxirane to, 715
α–hydroxy—, acyloins, reactions of anion with acetylenic esters, 4687
αβ–epoxy—, photo–induced SET reaction of allylstannane with, 2029
αβ–epoxy—, photo–induced SET reaction of allylstannane with, 2029
αβ–unsat –, Rh–catalysed Michael addn of activated nitriles, 2807
acetophenone, aldol reactions promoted by Et_2Zn, structure of dynopinacol, 6037
adamantanone, reaction with 7,7–dilithionorbornane, 2951
alkenyl alkynyl –, Pd–catalysed synth from vinyl triflates, alkynes, and CO, 6449
alkynyl β–hydroxyalkyl –, synth and stereosel reduction by DIBAL–H, 2219, 2223
aromatic –, Birch reductive alkylation, reduced phenanthrenes by, 1929
aryl methyl –, synth from ArHal by Heck reaction with vinyl butyl ether, 1753
aryl trifluoromethyl –, synth from arylcopper reagents, 2003
β–hydroxy—, diastereoselection in CN^- addn, 5423
β–trimethylsilyl–αβ–epoxy—, reaction with organometallics, 5789
β–trimethylstannyl –, photo–cleavage, 4003
benzocyclohepten–5–one, 3,4,4a,6,7,8,9,9a–octahydro–, 1549
butanone, rhodium–iodide catalysed synth from methyl formate, ethylene, and CO, 3989
butyl phenyl ketone formn from butyllithium and benzoic acids, pathway, 2771
catalytic arylation of allylic alcohols to β–arylethyl ketones, 2121
chiral reduction using *B*–chlorodi(iso–2–ethylapopinocampheyl)borane, 6691
chiral, by enantiosel protonation of enolates, 4729
chloromethyl α–trifluoromethylalkyl ketones, synth 4–fluoro–6–chloromethylpyrimidines from with formamidine, 2467
conversion into *N*–methylamides or lactams *via* acetals using *N*–methyl *p*–nitrobenzenesulfonyloxyamine, 2429
cyclopentanones *via* borolanes from 1,4–dienes, 1479
cyclopropyl –, ring–opening with SmI_2, radical enolate reactions, 6211, 6649
dialkynyl –, isomern to di(alka–1,3–dienyl) and alkynyl alka–1,3–dienyl –, 7549
dibenzyl –, reactn with vinyl Grignards in presence of $CeCl_3$, 2787
divinyl –, Nazarov cyclization, theoretical study, 725
enantiosel reduction to carbinols by B–H reagents with chiral oxaborolidine catalyst, 6835
enantiosel synth 4–phenylpentan–2–one, 5–phenylheptan–3–one, 7277
γ–hydroxyketones by $LiClO_4$ catalysed addn of Li enolates to epoxides, 7583
hydrosilylation catalysed by montmorillonites, hydroxyapatites, 4741
microbial hydroxylation of octalin–1–one derivs, 1983
nitriles from by Cu(II)–promoted ammonoxidation, 1007
o–benzylbenzophenones, photocyclization to 1,2–dihydro–2–arylbenzocyclobuten–1–ols and Me ethers, 263
oxycodone, oxymorphone hydrochlorides, hydrated C=O group observed in ^{13}C spectrum, 3763
radical anions from, adjacent strained ring–opening, 1315
reaction with diphenyl 2–bromoallylboronate, synth 3–bromohomoallylic alcohols, 6749
reductive alkyne coupling to –, SmI_2–promoted, 4921
regeneration from semicarbazones using $CuCl_2.2H_2O$ in acetonitrile, 5829
satd – by Ru–catalysed isomn allylic alcohols, and by addn of alkyne and hydrogen to aldehyde, 3039
stereoselective reductions by poly–dibenzo–18–crown–6–formaldehyde borohydride complex, 2157
synth by carbonylative light– and Pd–catalysed coupling of 9–alkyl–9–BBN, iodoalkanes and CO, 6923
synth by intramol Heck reactions involving allylic alcohols, 6113
thioacetalization using $FeCl_3$ on silica, 2259
to hydrocarbons by $LiAlH_4$ redn of aziridinohydrazones, 1691
see also Cyclic ketones, Dienones, Enones, Chalcones

Ketone halogen derivs
1,3–dichloroacetone acetals, cyclization to cyclopropenone acetals, 1339
1,3–dichloroacetone, synth 4–chloromethyloxazoles from, 1609
α–bromoketones, synth 2–ethoxycyclopentadienes, cyclopentenones from, 4521
α–fluorination by *N*–fluoro–1,2–benzenedisulfonimide, 1631
α–fluoro–, by enolate fluorination, 1779
α–halo—, Mg enolates of, generation, trapping, 5599
chlorodifluoromethyl ketones, synth, reactions, 5873
dehalogenation of α–haloketones by $(Me_3Sn)_2Te/F^-$, 1545

Kinetics
β–cleavage of dibenzyl carbinyloxy radicals, absence of temperature effect in, 4725
Baylis–Hillman reaction, mechanism and –, 5611
competitive benzoylation of anisole and mesitylene on montmorillonite, 1561
decomposition of cyanohydrins, dependence on stereochemistry, 6513
electrophilic fluorination of silyl enol ethers, 3819
elimination from 3–methoxycyclohexene in gas–phase, isotopic study of regiochemistry, 4077
glucosidase inhibition by 1–β–amino–1–deoxynojirimycins, 7199
hydrochlorination of 1,3–butadiene, surface–catalysed, 3461
hydrolysis of 2,4–dinitrophenyl sulfate in hydrophobic environments and methylated β–cyclodextrin, 2205
hydrolysis of dinucleotide thiophosphate analogs, 3723
hydrolysis *p*–nitrophenyl picolinate in micelles cont 2–hydroxymethylbenzimidazole Zn complexes, 193
isotope effect, in rearr of dopachrome to 5,6–dihydroxyindole, 3849
lithiation of benzene, alkylbenzenes, by superbases, 1483
microwave activation of organic reactions, 2363
phenol–diazonium salt coupling catalysed by cyclodextrins, 5231
photodehalogenation of tetrachloronaphthalenes, mechanism, 5705

radical addn to αβ–unsaturated amides, 707
solvolysis rates in Me_2CO/H_2O of sterically hindered benzylic tosylates, 1805
solvolysis with ring–cleavage of 3–subst 1–bromobicyclo[1.1.1]pentanes, 5945
thermal epimerisation of 2,4–dibenzylidene–6–methylbicyclo[3.1.0]hexan–3 –one, planar ring intermediate, 5869
trifluoroethanolysis of EtO-$SiMe_2Ph$, general acid catalysis, 307
trimethylsilylketene, hydration rates in acid, alkali, and neutral medium, 847

Labelling

(6*R*)– and (6*S*)–6–^{2}H–5–enolpyruvylshikimate–3–phosphate, enzymic synth, 963
1–morpholinocyclopropyl–1–^{13}C ketimines, rearr to C–5–enriched pyrroles, 7127
biotin–attached phosphoramidite, for reporter–group marked oligonucleotide synth, 1715
C–13 study of chemical, peroxidase, and uricase oxidation of uric acid, allantoin formation, 7477
cocaine–[*N*–CD_3], pyrolysis, 4405
erythromycins A, B, nargencin A_1, mech of polyketide chain extension, 5457
L–N^G–hydroxyarginine, synth, N–15–labelled, 875
L–valine–d_8 incorporation into isobutyric, methacrylic acids in beetle, 4849
N–15 to identify origin of N in pyrrolizidine synth, 5543
rotenone–isorotenone rearr in deuterated acid, 7337
tritium–, of threonine and epimers, 1031

Lactams

2,5–dioxopiperidine–3–carboxylates, 6–aralkyl–, for incorporation into peptides, 3563
3–subst piperidones, pyrrolidones, by Claisen rearr *O*–allyl enamino–ethers, 4199
by intramol cyclization β–nitroalkyl propargyl and alkynoyl amides, 1363
capro—, 2–azido–5–hydroxy–*N*–methyl–, synth bengamide B moiety, 5907
didemnilactone, neodidemnilactone, 8,9–dihydroxyeicosa–5,10,12,14(17)–tetra(penta) enoic acid 9–*O*–lactone, 5127
enolate alkylation, intramol, 1577
γ–butyrolactam, 2,3–epoxy–4–hydroxy–4–(2–hydroxyethyl)–, synth part structure of fusarin C, 3635
herbimycin A, benzoquinoid macrocyclic ansa—, synth, 6015
isoindolin–1–ones, benz[*e*]isoindolin–3–ones, synth by intramol cycloaddn, 5481
macrocyclic 11–membered, Mukaiyama reagent for cyclization, 1649
macrocyclic tetra–, geometry, Ca^{2+} complexation, 919
monosaccharides chiral templates in γ–butyrolactone synth, 1667
N–methyl–, from cyclic ketones *via* acetals using *N*–methyl *p*–nitrobenzenesulfonyloxyamine, 2429
piperidine–2,5–dione, 6–cyclohexylmethyl–3–isopropylidene–, synth, conversion into aminoalkyl–γ–lactone, 3623
renin inhibitors, macrocyclic diamide synth, 2453

Lactones

(±)–4–epi–acetomycin, 4–acetoxy–2–acetyl–2,3–dimethylbutanolide, synth, 6421
(±)–acetomycin, γ–butyrolactone –, synth, 3381
(±)–dihydroactinidiolide, (±)–aeginetolide, C–11 terpenoid lactones, synth, 4871
(–)–mint lactone, stereosel synth, 5191
(–)–muricatin, synth from cyclooctyne–furan adduct, 5535
(2–methylene–3–hydroxycyclohexane)acetic –, synth from 2–(phenylthio)–cyclohex–2–en–1–ol diazomalonate esters, 6159
12–membered macrolide, (±)–di–*O*–methyl–12–oxocurvularin synth, 1599
13–membered 7–keto—, synth 4,10–di– and 3,7,9,11–tetra–Me derivs, 7559
15–hexadecanolide and methyl derivs, by Baeyer–Villiger oxidation, 1027
1α–methoxycarbonyl–8aα–hydroxy–4aα,8–dimethyl–1,2,3,4,4a,5,6,8a–octahydronaphthalene–3–carboxylic acid lactone, 5531
2,5–dihydroxytetrahydropyran–4–acetic acid γ—*s*, condn with tryptamines, 4303
2–deoxy–6–formyl–3,6–anhydro–hexono–1,4–lactone dimethyl acetals, from aldehydo–sugars and ethoxycarbonylmethylene triphenylphosphorane, 7473
2–methylenebutyrolactone, cycloaddn to *N*–benzylazomethinimine, 1241
3–(diethoxyphosphoryl)–4,4–disubst butanolides, synth, βγ–unsat amides from, 6231
3–benzyl–4–carboxy–4–hydroxy–2–phenethyl butenolide, by double carbonylation of 2–bromoethylbenzene, 4703
4–(α–aminoalkyl)butyro—, synth of intermediate to renin inhibitor isostere, 4503
4–anilino–5–(cyano(carboxy)methylene)–2–butenolide, by quinone rearr, 5825
4–benzyloxy–2–hydroxycyclopent–3–eneacetic acid –, by microbial oxidation bicyclo[2.2.1]heptenone deriv, 499
4–menthyloxy–2–butenolide, enantiosel carbanion addn, 3239
5,6–dihydro–2–pyrone, cycloaddn to *N*–benzylazomethinimine, 1241
5–(α–aminoalkyl)–5*H*–furan–2–ones, butenolides and butanolides, synth, 3795
α–chloro–spiro–β–lactones, synth and rearr to fused butenolides, 6501
α–hydroxy–γ–lactones, cyclopenteno–, cyclohexeno–fused, 7529
α–methylene–, nucleophilic bromination by perbromide, 3217
α–methylene–β–lactones, addn of cyclopentadiene and decarboxylation, 7033
α–methylene–γ–butyro–, Pd–catalysed Sn–mediated synth from aldehydes, 225
α–methylene–γ–butyro–, cycloalkane–fused, by Hosomi cyclization allylic trimethylsilyl aldehydes, 387
addition of malonate mono–esters to enol ethers, Mn(III)–promoted formation γ–lactones, 1011
analogs of L–659 699 with β–lactone ring replaced by γ–lactone, β–lactam, and oxetane rings, 3337
asymm synth δ–, by hetero–Diels–Alder synth, 935
β–keto— to β–methyl–αβ–unsat – by Pd–catalysed $AlMe_3$–enol phosphate coupling, 4027
β–keto–δ–valerolactone, synth and participation in Michael addns, 3063
β–thio—, synth 1,2–thiolan–3–ones from, 6625
bridged γ–, in noranisatin, oxidation of bridged tetrahydrofuran by $RuCl_3/NaIO_4$, 1329
butalactin, butanolide from *Streptomyces corchorusii*, 141
butanolide, 5–(1–benzyloxy–3–butenyl)–3–methoxy–, synth, 7543
butanolide, 2–(1–hydroxy–6–methylheptyl)–5–hydroxymethyl–, from marine actinomycete, struct, synth, 7001

butanolides and butenolides, 4–(naphthoquinonyl), synth using 2–trimethylsilyloxyfuran, 6417
butanolides, enantiosel synth 4–carboxy–, 4–acyl–, 4–(α–hydroxyalkyl)–, 7539
butenolides, chiral synth β–alkylhomoallyl–, γδ–epoxy–β–alkyl–alcohols from, 371
butyrolactone *Streptomyces* cell regulators, revised stereochem, 1817
chemo–microbiological route for converion of butanol to butanolide moiety in eudesmane series, 5383
chiral γ–(α–aminoalkyl)–γ–, by titanium homoenolate addn to aminoaldehyde derivs, 1867
citreohybridones A, B, sesterterpenoid lactones from *Penicillium* hybrid strain, 3543
cleavage by $BI_3.Et_2NPh$ to iodocarboxylic acids, esters, 6855
Corey lactone synth by Diels–Alder using *O*–acryloyl D–pantolactone, 4557
cyclohexa–2,5–dienone 4–spiro–γ–lactones, synth and bis–epoxidation, 6613
D–pantolactone, use of in asymm Diels–Alder reaction, 1613
D–ribono–, synth (–)–D–*threo*–4,5–dihydroxy–L–valine from, 1979
five–membered – hydrolysis by $A_{Al}2$ mechanism, 2331
furan–2–spiro–4–butanolide, synth from enol lactone, 7107
γ–butanolide, 2–isopropyl–4–(1–amino–2–cyclohexylethyl)–, stereospecific synth, 3623
γ–oxy–δ–, by intramol SmI_2OBu^t–promoted Tishchenko reaction of γ–oxy–δ–ketoaldehydes, 5097
ginkgolide analogs without t–butyl group, synth, 4623
gloeosporone, chiral synth intermediate, 537
gluconolactones from Rh–catalysed intramol H transfer in propenylglucose, 23
hexahydro–3–hydroxy–4–iodobenzoic – and 1,2,3,6–tetrahydro–3–hydroxybenzoic –, asymm synth, 1613
iejimalides C and D, macrolides from *Eudistoma* cf. *rigida*, 797
itrabin, jetein, tetrahydrofuran–γ–lactone acetogenins, 6133
macrodiolide, enantiosel synths of (–)–(*R,R,R*)–colletallol, 1495, and of pyrenophorol, 1499
marmelo–, glucoside precursor of from quince, 3669
Meldrum's acid, tosyloxy–, base–induced sulfinate elimination, 2937
muricatacin, acetogenin deriv, nmr, ms, 1137
neohalicholactone, 9–membered – from sponge, conformation and structure by x–ray, 2427
pantolactone as chiral auxiliary in asymm Diels–Alder and Michael addn reactions, 7465
phoracantholide I, 10–membered –, synth, 5585
plakortolide, peroxidic γ— from sponge, 7167
radical process for cyclohexa–annulation to angelicalactone, 199
sesquiterpenoid –, homogynolide–A, synth, 767
sixteen–membered diacetylenic dilactone, formation by ketene alcohol dimerization, 5923
spiro–butanolides, fused cyclopentenones by rearr of, 3215
sugar –, transannular I^-–promoted aldol cyclization of 5–formyl–2–iodo–δ–lactone, synth polyoxy–cyclopentanecarboxylic acids, 6227
sugar lactone 2,3–diacetates, dihydro–dideacetoxylation by H_2/Pt/Et_3N, 4963
synth precursor to 14–membered dilactone grahamimycin A_1, 517
thiolcarbonates, 10–membered, by sigmatropic [3,3]–rearr, calculations on, 1203
trans–2,3–dihydroxy–4–subst butanolides, chiral synth from L–tartaric acid, 3401
valilactone, β–lactone synth by π–allyl $Fe(CO)_3$ lactone complex, 2651
vinylcyclopropane γ–, rearr by LiI to cyclopentene – and to butadienyl –, 4591
viridenomycin, 24–membered polyene lactam–lactone, 659
see also Macrolides

Lactonisation
β–hydroxyacid to spiro–β–lactone by $PhSO_2Cl$/pyridine, 1329
macro— by OH–activation, COOH–activating methods ineffective, 5781

Lathanides and compds
alkoxides, synth from hydrated chlorides, uses, 2355
see also Cerium, Samarium and compounds

Lead and compds
3,4–methylenedioxyphenyllead triacetate, synth and arylation of β–ketoester using ultrasonication, 5999
lead(IV) acetate, acetoxylation of an enone by, 4577
tris[2–(3,5–di–t–butylphenyl)–2,2–dimethylethyl] bromoplumbane, hexakis[2–(3,5–di–t–butylphenyl)–2,2–dimethylethyl]diplumbane, from $PbCl_2$ with 2,4,6–tri–t–butylphenyllithium/Br^-, 6601

Leukotrienes
analog of LTD_4 with 6–(6–mercaptohex–3–enoic acid) group, 2613

Lignans
(±)–sesamin, stereo–, regio–selective synth, 5999
(–)–eudesmin, enantiosel synth from (*S*)–4–menthyloxy–2–butenolide, 3239
etoposide thioglucose analog, synth, 6927
nor–neolignan from *Krameria ramosissima*, 5–(1–propenyl)–2–(2,4,6–trimethoxyphenyl) benzofuran, synth, 3835
podophyllum lignans, glycosidation, 1653
synthetic precursors, 1,2–dihydro–2–arylbenzocyclobuten–1–ols and Me ethers, 263
taiwanin E, synth by tandem Michael addn – aldol cyclization, 3735

Linear free energy relations
aldol reactions, substd benzaldehydes with pinacolone dibutylboron enolate, multiple regression analysis of substituent effects, 5239
β– and γ— in synth hydroxyamides, 6507
β–cleavage of dibenzyl carbinyloxy radicals, 4725
cycloaddn of 2,5–dimethyl–3,4–dimethylenethiophene to substituted styrenes and benzaldehydes, 5305
Michael addns to 2,2–diaryl–1,1–dinitroolefins, curve crossing and chemical shift correlation, early *vs* late transition state, 5163
rates and selectivity of H abstraction from subst toluenes by oxometalloporphyrins (metal = Fe, Cr, Mn), 3759
solvolysis of 3–subst 1–bromobicyclo[1.1.1]pentanes, 5945
solvolysis of *p*–subst α,α–di–t–butylbenzyl *p*–nitrobenzoates in 50% aq EtOH, LArSR equation, 2929
solvolysis rates of sterically hindered benzylic tosylates, 1805
triaryl phosphite reduction of perepoxide, 863

Lipids
see Eicosanoids, Glycolipids, Phospholipids, and other lipid types

Lipopolysaccharides
glycobiosyl phosphatidyl *myo*–inositol synth, 101
glycophosphatidyl anchor of *Trypanosoma brucei*, synth, 671

Liquid crystals
cholesteric fumarate esters, cycloaddn to 2,6–dialkoxyanthracenes, 1729
ferroelectric, cyanocyclopropanes as chiral dopants of, 939

Lithiation
2–protected 1,2,3,4–tetrahydroisoquinolines, addn to carbonyls, SET mech, 1941
2–t–butoxydimethylsilyl–3–hydroxymethylfuran, by BuLi at posn 4, 5881
5–aryltetrazoles, *ortho*–metallation of anion, and of *o*–tolyl group in side–chain, 6857
9–lithio–9–trimethylsilylanthracene, alkylation, rearrangement of anion, 3969
α— of *N*–methylbenzamide, reaction with anthraquinones, 3845
allenyl α–ethoxyethyl ether, and Li–Sn exchange, 1899
aryl 2–pyridyl sulfoxides, at pyridine 3–posn, 2943
β–(diethoxyphosphoryl)propionic acid, synth βγ–unsat amides from, 6231
benzylic – of *N*–pivaloylphenylethylamine, 3–amino–2–arylpropanoic acids from, 1963
by superbasic reagents, alkyllithiums, of *N*–pivaloyl 3–methoxyphenylethylamine, 1965
chiral, of 2–(alkyliminomethyl) tetrahydroisoquinolines, 5501; of C(1)–chiral species with racemisation, 5505; mech of alkylation of lithiated species, 5509
cyclohexenyl sulfones, αβ– to βγ–double bond shift, 2861
lithio–dealkylsulfenylation of ketone and benzaldehyde dithioacetals by BuLi, 2509
of β–hydroxyalkyl t–amine oxides, 1443
of benzene, alkylbenzenes, superbases RLi–ROK for, 1483
ortho— of diethylbenzamides in synth saccharin analogues, 7179
regiosel – of methyloxymethylanthracene derivs using BuLi–t–BuOK, 4337
tri— of dihydric phenols, halogen–Li exchange, methylthiation, formylation, 7313

Lithium and compds
2,4,6–tris[bis(trimethylsilylmethyl)]phenyl lithium, 1,3–shift of trimethylsilyl group in, 2049
2–(pentafluoropropenyl)lithium, synth, uses, 4271
2–fluoro–3–lithio–pyridine, –quinoline, intermeds in 2–deoxy–*C*–nucleoside analog synth, 3297
2–lithio–2–methylpropionitrile, nucleophilic substitution and addn into fluoroarene tricarbonylchromium complexes, 6323
2–lithio–2–triphenylsilyloxirane, alkylation and deoxygenation by trialkylalanes, 2783
3–pyridyl—, methoxy displacement from 2–(2,3,4–trimethoxyphenyl)–4,4–dimethyloxazolin e by, 3871
7,7–dilithionorbornane, 2,2–dilithioadamantane, generation, reactivity, 2951
α–lithiated cyclic enol ethers, C–O cleavage with R–Li addn, 5903
α–lithio–t–amines, generation, use, 1975
acetylides, Li–salt–catalysed ring–opening of epoxides by, 6617
addition of aromatic aldehydes to Li enolates in THF and solid phase, 1535
alkenyl α–methylseleno–benzyl lithium, synth 1–arylbicyclo[n.1.0]alkanes from, 417
alkyl– addn to internal carbons of dicyclopenta[*ef,kl*]heptalene, 735
amination of organolithiums with TsO–NLi–BOC, 2359
aryl–, alkynyl—, coupling to halides using R_2TlX catalysts, 2255
aryl—, conversion into arenesulfonamides, 7179
asymmetric addn organo–Li to arylaldehyde 4–methoxyphenylimines, 3095
butyl— in hexane, dechlorination of di–1–adamantylchloromethane by, 2203
butyl—, pathway for butyl phenyl ketone formn from benzoic acids, 2771
butyl— and t–BuOK as superbase for *p*–xylene side chain metalation/alkylation, 3369
determination of lithal purity/concentration, 4309
dodecahedryllithium, synth, reactions, 6529
ethyl—, addn to acylketene acetals, salt effects in, 465
fluoroborate, Lewis acid catalyst for intramol Diels–Alder reactions, 1549
γ–lithioalkyl vinyl ethers, vinyl group transfer from O to C, 4425
glycals, lithio–, C–glycosides from, 769
halides, regiosel opening of epoxides to halohydrins by, 3021
iodide, promotion of alkenylcyclopropane lactone rearr, 4591
lithiated vinyl ethers, calculations on anion energies and proton and Li^+ affinities, 6069
organolithium compounds, β–addn to 2–(α–cyanovinyl)indoles, 7237
oxiranyl—, generation, addn to C=O, dimerization, 615
perchlorate, catalyst for conjugate addn of silyl ketene acetals to enones, 4665
phenyl—, reaction with triphenylselenonium salts, diphenylselenoxide, 3179
reactivity towards 2–(1–naphthyl)–oxazolines of organolithiums formed using Freeman's reagent, 2095
reductive α–alkylation by RLi of α–epoxysilanes, stereochem, 3457
sec–alkyl—, addn of ethylene, influence of intramol Lewis base, aggregation degree, 3111
t–butyldimethylsilylthiolate, generation, use, 2189
tri–t–butylphenyllithium, reaction with lead(II) chloride, lead(IV) products, 6601
trialkylzincate R_3ZnLi, reactions with $R'CHBr_2$, 1573
triphenylphosphinimine, *N*–lithio–, reactivity, 347
tris(phenylthio)methyllithium, addn to β–ethoxy–α–methylacrolein, 6329
vinyl—, reaction with dimethyl squarate, 1129

Macrocycles
1–thiacyclodec–5–ene–3,8–diyne, aromatization by bases, 391
intermeds for synth of poly–S–N– and poly–N–ligands, 21
macrocyclic polyether–bridged ferrocenes; also with $–CH_2S–$ at 1,1′–positions, 3775
mycotrienins I and II, stereochemistry, 841
P_4N_8–24–membered rings containing phosphorodihydrazide groups, 203
sixteen–membered diacetylenic dilactone, formation by ketene alcohol dimerization, 5923
tetra–2,4–imidazolylene di–carbonyl di–*m*–phenylene system, synth, pmr, nOe, 3333
tetra–aza—, mono–*N*–alkylation *via* boron complex, 639
tetralactams, 21–membered, geometry, Ca^{2+} complexation, 919

tetronolide, 13–membered trienone, tetrocarcin aglycone, synth, 4925

Macrolides
(+)–aspicilin, improvements in photochem synth, stereosel epoxide ring–opening, 7397
(+)–brefeldin A, 13–membered – synth, 2409
(*E,E*)–suspensolide, 11–membered –, rearr to fused lactones, 5303
(±)–di–*O*–methyl–12–oxocurvularin, 12–membered –, synth, 1599
19–*epi*–avermectin A_{1a} synth from avermectin B_{1a}, 2719
19–*epi*–avermectin B_1 synth from avermectin B_1, 2723
21–membered lactam antibiotic, (+)–trienomycin F, synth, 1627
4,6–dideoxy–hexopyranoses, use in macrolide synth, 517
9–dihydroerythronolide A, glycosidation in synth erythromycin A, 6155
A83543 A–D, with tetracyclic undecanolide aglycone, 4839
absolute configuration of cembranolides, anomalies in modified Mosher's method, 2923
aspicilin, synth C3–C9 fragment *via* sulfoxide, 509
avermectin–nemadectin hybrid synth, 3663
bryostatins, asymm synth of C_1–C_9 and C_{11}–C_{16} fragments, 2821
dilactone, synth grahamimycin A_1 precursor, 517
erythromycins A, B, nargencin A_1, biogenesis, 5457
erythronolide, synth bis–3,6–dihydro–2*H*–pyran fragment, 3957
FK506 and derivs, reactions with diazomethane, 7039
gloeosporone, chiral synth intermediate, 537
halichondrins B, C, synth bis–3,6–dihydro–2*H*–pyran fragment, 3961
iejimalides C, D, antineoplastic –, 797
macrodiolide, enantiosel synths of (–)–(*R,R,R*)–colletallol, 1495, and of pyrenophorol, 1499
macrolides, synth C(11)–C(17) fragment tylonolide, 267
madurolide, 24–membered – glycoside from marine actinomycete, 2323
maridonolides, 16–membered –, synthetic precursor showing slow conformational isomerisation, 5133
meta–para–cyclophane 14–membered lactone formation, 5781
oscillariolide, 14–membered – from blue–green alga *Oscillatoria sp.*, 2391
pamamycins 635A,B, 649A,B, tetrahydrofuranoid –from *Streptomyces alboniger*, 3087
pateamine, 2,4–bridged thiazole dilactone from sponge, 6411
rapamycin fragments used in synth of immunosuppressant FK–506 analog, 4627
synth C(11)–C(17) fragment tylonolide, 267
viridenomycin, 24–membered polyene lactam–lactone, 659

Magnesium and compds
alkyl–Mg and –Li reagents with $MgCl_2$ for reductive ring–opening bicyclic allylic ethers, 4827
diene complexes in spiro–annulation, fused magnesacyclopent–3–enes, 5269
diiodide, anhydrous, for ester cleavage under anhydrous conditions, 5931
zirconocene dichloride catalysed synth 1,4–dimagnesium reagents from olefins, 6797
see also Grignard reactions and reagents

Manganese and compds
catalytic cluster for alkane, alkene oxidation, 1153
chiral (salen)Mn(III) catalysts for epoxidation of olefins by PhIO, 1055
chiral (salen)Mn(III) complex for asymmetric epoxidation, 6533
chiral Mn(II) ephedrine catalysts for azomethine ylid cycloaddn, 5817
dioxide, oxidation of retinal and 20–trifluoro–by, nor–retinal products, 1933
manganese(III) acetate in addn malonic mono–esters to enol ethers, 1011
manganic and cupric acetates, promotion of radical cyclization of a β–keto–icosatetraenoic ester, 4819
$Mn(OAc)_3$–promoted addns of β–diketones, β–ketoesters, to cyclic enol ethers, 7107
permanganate–oxalyl chloride reagent for *trans*–dichlorination of olefins, 1831

Mass spectra
chemical ionisation –, generation of and methylation of fluorobenzene by $(CH_3)_2F^+$, 6775
FAB MS/MS of cyclic pentapeptides, 6715
FABMS of a tetracationic [2]–rotaxane, 6235
gas–phase detection thiofulminic acid, nitrile sulfides, 1487
negative ion and FAB, of ionic sponge alkaloids, 1843
pentafluorobenzyl esters of acids from beetle defensive secretion, 4849
quinone methides and analogues, FVT–MS/MS coupling, 2013
supersonic jet mass resolved excitation spectra of benzylamines, conformational study, 3945

Mechanisms
Baylis–Hillman reaction, kinetics and –, 5611
benzyl transfer in benzylamine on clay, redox process, 303
dechlorination of di–1–adamantylchloromethane by BuLi in hexane, 2203
epimerization by dissociation of 2–methylthiophosphonio–1,3–dithiane, crossover expts and isotope effects, 7329
ester cleavage by $(Bu_3Sn)_2O$, retention of configuration with (–)–menthyl acetate, 4239
homolytic acylation of ferrocenes, 4993
homolytic H–shift on rearr of 6,6–difluorobicyclo[3.1.0]hex–2–ene, 3933
insertion of olefin into C–I bond of iodomalononitrile, argument for radical – from stereochemistry, 6307
lactone hydrolysis by $A_{Al}2$ process, 2331
Michael addns to 2,2–diaryl–1,1–dinitroolefins, curve crossing and C–13 chemical shift correlation, early *vs* late transition state, 5163
Pd–metallacycle catalysed enyne metathesis in cyclic olefins, 3647
photodehalogenation of tetrachloronaphthalenes, kinetics, 5705
radical chain – photo–addn alcohols to fluoro–olefins, 251
radical chain – for dediazoniation of *p*–nitrobenzene diazonium salt by phosphite and phosphine, 5601
radical oxidation with Fe reagents, kinetic isotope effects, 3811
Reimer–Tiemann reaction in sulfolane using KF, 3691
rotenone–isorotenone rearr in deuterated acid, 7337
S_N2 at fluorine preferred for electrophilic fluorination of benzyl citronellate silyl enol ether, 3815, 3819
sulfur extrusion from triphenylmethylsulfenyl chloride catalysed by thioketone, 7633
trifluoroethanolysis of EtO–$SiMe_2Ph$, general acid catalysis, 307

Mercury and compds
cyclo–peroxymercuriation of β–hydroperoxyalkyl cyclopropanes, 6953
intramol amino– and amido–mercuration reactions forming 3–aminopyrrolidines, 3205

Metabolites
15–cyanopuupehenol, tetracyclic sesquiterpene–shikimate–derived – from sponge, 5671
3β–hydroxy–5α–cholest–8(14)en–15–one, synth approach to metabolic products of, 3923
bengamide E, sponge metabolite, synth, 1063
benthocyanin A, furo–phenazine from *Streptomyces prunicolor*, 943
calyculins, sponge –, synth C33–C37 portion, 6977
citreoindole, – from *Penicillium citreo–viride* hybrid strain, 6883
cyathostemmine, shikimic acid – from *Cyathostemma viridiflorum*, 6117
fusarin C, synth γ–lactam segment, 3635
hericenones C, D, E, phenolic phthalides from fungus *Hericium erinaceum*, 4561
jadomycin, 1,3a–dihydrobenz[*b*]oxazolo[3,2–*f*]phenanthridine 8,13–quinone deriv, from *Streptomyces venezuelae* ISP5230, 6301
mould –, precursors to chaetoglobosin A isol from *Chaetomium subaffine*, 4533
paspalicine, mould –, synth of part structure, 1381
pentadecane–2,5,8,11,14–penta–one from myxobacterium *Myxococcus xanthus*, 3559
sponge –, synthetic approach to discorhabdin C, 2035
vinaxanthone, from *Penicillium vinaceum*, phospholipase C inhibitor, 4737

Metallation
hydrogen–metal exchange by Gignards in cubane–1,4–bis(diisopropylcarboxamide), 2173

Metals
alkali – ion transport by lariat ethers, correlation with extraction and homogeneous binding constants, 6269
alkenyl metals – Al, Cu, Mg, Sn, Zn, $ZrCp_2$ – in Pd–catalysed couplng to iodoalkenes for vitamin A synth, 6683
dimetalla–methyl substituents formed in metalla–Claisen rearr, 5969, 5973
indium, for allylation of aldehydes, ketones in aqueous media, 7017
methyl–metal reagents, comparison of diastereoselectivity of addn to 2–(tetrahydrofuran–2–yl)acetaldehyde, 1937
organo– species (Cu, Li, Zn), BOC–amination of, 2359
organo–Zn, Sn, Pb, Al, B, Li, Cu, reactions with azodiformic mono–amide mono–ester, 3079
polyethylenecarboxylates of Cu(II), Rh(II), Ru(II) as cyclopropanation catalysts, 2731
titanium on graphite for McMurry reductions of keto–esters, 6695
$ZnCl_2$, $CaCl_2$, $MnCl_2$, effect on stereochem of BH_4^- reduction of α–methyl–β–keto–esters, –amides, 6147

Microbial reactions
baker's yeast reduction 2–phenylthio– cyclic ketones, 399
baker's yeast, effect of heat–treatment on reduction by, 2927
bio–hydroxylation of hydrindenones by *Rhizopus arrhizus*, 3573
Candida cylindracea lipase asymmetrization by transacetylation of 2,3,4–tri–*O*–benzylpentitols, 5701
hydroxylation of sclareol by *Mucor plumbeus*, 1783
oxidation by *Pseudomonas putida* of dihydrobenzocyclobutene, indane, tetralin, tetrahydrobenzocycloheptene, biphenylene, fluorene, 9,10–dihydroanthracene, 3887

Microorganisms
Acinetobacter calcoaceticus NICB 9871, enantiosel oxidation bicyclohept[2.2.1]hept–5–en–2–one deriv, 499
baker's yeast catalysed chiral β–amination of αβ–unsat esters, improved e.e. in presence of β–cyclodextrin, 6611
baker's yeast S–oxidation of thioether groups in fatty acid chains; Δ9–desaturase–deficient mutant incapable, 891
baker's yeast, enantiosel reduction of 4–oxo–3–tetrahydrothiopyranylacetates by, 7055
baker's yeast, reduction of α–keto–esters in benzene, 7075
baker's yeast, enantiosel reduction of citronellal by, 2643
baker's yeast, hydrolysis of hydrazones by, 2657
brewer's yeast in enantiosel synth 3–hydroxy–3–phenylpropionic acid, 1901
Candida cylindracea, Rhizopus arrhizus, Penicillium cyclopium, amide formation by lipase activity of, 2763
oncorhyncolide, dihydropyrone metabolite from sea water, 315
Penicillium citreo–viride hybrid strain, citreoindole, aminoacid metabolite, 6883
Pichia guilliermondii yeast, fatty alcohol oxidase from, 2009
Pseudomonas putida, toluene hydroxylation by in (–)–lamnitol synth, 1671
Rhizopus arrhyzus, allylic hydroxylations in octalin–1–one derivs, 1983
Rhizopus nigricans, 11–hydroxylation of 6β–acetoxyeudesmanone, 5383
Streptomyces butyrolactone cell regulators, revised stereochem, 1817
Thysanophora penicilloides, thysanone, rhinovirus protease inhibitor from, 5279
various fungal spp, allylic hydroxylation of octalones by, 647, 651

Microwave heating
on alumina, silica, montmorillonite, microwave and fluoride–activated silyl Reformatsky reaction, 1179
with stirring, naphthalene and anthraquinone sulfonation, amination of *p*–chloronitrobenzene, hydrosilylation of vinylpyridine, 5251

Migration
N→*O* acyl – in *N*–benzoyl–*O,O*–dialkyl–*N*–phenyl phosphoramidates, 4193
phenylthio— and cyclization forming 2–spiro–pyrrolidines and –tetrahydrofurans, 6645
phenylthio group – in 1,4– and 1,5–diol cyclodehydration, 5409
phenylthio–group – in tetrahydropyran synth from 2,5–dihydroxyalkyl phenyl thioethers, 3425
phosphoryl – between N and O in phosphoryl amides, 137

Models
aldolase enzyme model, 6–amino–6–deoxy–[7]–β–cyclodextrin, 1207
enzyme, receptor –, β–cyclodextrins disulfonylated with two different groups, 6737
model enzymes, Zn complexes with 2–hydroxymethylbenzimidazoles, esterolytic activity in micelles, 193

Molecular modelling/mechanics
2–benzoyl–*N,N*–dibenzylaniline HCl, conformation for photocyclization, 3915
4,5,6–triacetoxycyclohex–2–enyl Meldrum's acid, 2471
base–pairing in polynucleotide chains containing cytosine 2′–deoxy–L–riboside units, 2573
calix[4]arene, unsubstituted, MMX calcs and crystal structure, 5655

chiral spiroacetals from 1,3,5–pentanetriols and (–)–menthone, MM2(77), 1219
conformation of hexopyranose amino–sugar cyclic oxazolidine, 1371
cyclopentadecanone and 15–hexadecanolide, MM2, 1027
dibenzo[*jk*;*uv*]dinaphtho[2,1,8,7–*defg*;2′,1′,8′,7′–*opqr*]pentacene, 1,10–dimethyl–, MM2 calc, chiral conformation, endoperoxide, 5227
intramol H–bonding in polyamide systems, 7377
intramol hydrogen–bonding in oligoamides; *in vacuo* MM studies, 3613; generalised Born solvent accessible surface area calc in CH_2Cl_2, 3617
intramolecular [4+2] cycloaddns of allyl penta–3,5–dienyl sulfides, 2387
Macromodel calcs on diastereosel cycloaddn of 5,6–fused cyclooctenes to hexachloro– and 5,5–dimethoxy–tetrachloro– cyclopentadiene, 3289
MM2 calcs on aldol stereoisomers, 13
MM2 force field calcs on bicyclo[5.3.1]undecane and bicyclo[4.2.2]decane β–hydroxyketones, 6805
phosphodiester–bridged macrocyclic cryptand, model and stero–view, 7723
sangivamycin methyl derivs, conformation, 7273
silvanol, calix[4]arene incorporating arborol groups, 1133
simulated annealing for conformation calculations, 3601
see also Theoretical calculations

Molecular recognition
chiral – in naproxen complexation with bis–(1,1′–binaphthyl) cyclophanes, 6276
dynamic –, catalysis of ester hydrolysis by bis(dihydroxyphenyl)imidazolylmethane, 4757

Molybdenum and compds
alkynyloxycarbene $Mo(CO)_5$ complexes, cyclopropyl–dihydrofurans, –dihydropyrans from, 5223
η^3–crotyl–Mo–cyclopentadienyl–nitroso–halides, addn to aldehydes, 1271
peroxides, alkoxylation of organo–Pd by in alcohols, 675

Named reactions
Baeyer–Villiger oxidation, microbial, bicyclo[2.2.1]hept–5–en–2–one deriv to rearranged lactone, 499
Baeyer–Villiger oxidation of cyclopentadecanone and α–methyl derivs, 1027
Baeyer–Villiger oxidation cyclopentanones to tetrahydropyrans, 1479
Baeyer–Villiger oxidation 7–oxabicyclo[2.2.1]heptan–2–ones, sugars from, 1429
Baeyer–Villiger oxidation of β–ketoesters, 2413
Baeyer–Villiger oxidation of 7–oxabicyclo[2.2.1]hept–2–one deriv, 3169
Baeyer–Villiger oxidation of cyclobutanones, 3827
Barton decarboxylative radical generation forming iminyls, 4299
Barton reduction of xanthate of α–oxy–subst β–lactam, 3105
Barton–McCombie deoxygenation in sugars, 367
Baylis–Hillman reaction, kinetics and mechanism, 5611
Beckmann fragmentation of α–alkoxycycloalkanone oxime acetates, reductive variant, 5367
Birch reduction of *m*–anisic acid, 1707, of *o*–xylene, 1711
Birch reductive alkylation of aromatic ketones, 1929
Birch reductive alkylation of *N*–(2–methoxy–1–naphthoyl)prolinol, 2621
Bischler indole synth, appl to 5–aminoindoles, 5035
Bischler–Napieralski β–carboline synth, 1987
Bischler–Napieralski synth applied to benzoquinolizidines, 2489
Brook rearrangement, in cyclized acyltrialkylsilane radicals, 3515
Carroll rearr of (*E*)–crotyl α–methylacetoacetate, α–methyl α–(1–methylprop–2–enyl) acetoacetic acid, 6421
Chapman rearrangement on ozonolysis of 4,5–diphenyloxazolin–2–one β–lactam derivs, 3305
Claisen orthoester rearr, ketene acetal on 1,4–benzodioxin system, 5525
Claisen rearr 3–(2–pyridyl)–1,1–dimethylpropargyl *p*–cyanophenyl ether, 811
Claisen rearr in *N,N*–dimethyl 5–allyloxyindole–3–glyoxamide, 3345
Claisen rearr of 7–(chalcogenoallyl)– to 8–allyl–7–(oxo–, thio–, seleno)–guanosines, 4823
Claisen rearr of allylic ester enolate in stereosel synth trisubst olefin, 2909
Claisen rearr, 3–aza–, *N*–allylamides to α–allylacetonitriles, 179
Claisen rearr, aldol cyclization, and elimn, forming bicyclo[3.3.0]octa–2,6–dienes from 4–vinyloxy–2–cyclopentenemalonic esters, 3399
Claisen rearr, amide acetal, enantiosel with fluoroketene *N,O*–acetals, 4267
Claisen rearr, ketene amino— of 2–azabicyclo[2.2.1]hept–5–ene system, 7233
Claisen rearrangement, metalla–, allyl vinyl zincs, stereocontrol, 5969, 5973
Claisen–Ireland rearr in stereocontrolled acid synth, 4651
Claisen–Ireland rearr of crotyl 2,3–dimethylbut–3–enoate, 6423
Claisen–Ireland, *see also* Ireland–Cleisen
Cope rearr divinyl epoxides, enol ethers and esters of 4,5–dihydro–3–oxy–oxepins by, 157
Cope rearr forming cyclopenta–cyclooctadienes from divinyl cyclobuta–cyclopentanes, 6969
Cope rearr, oxy–, thermally reversible, 319
Cope rearrangement, tris–aza–, *N*–cyano–*N′*–vinyl–(aryl–)hydrazines to (benz)imidazoles, 907
Cope rearrangements in synth doubly cyclopentenone–bridged hexahydronaphthalene systems, 6351
Curtius reaction of ketopinic azide, 4959
Curtius rearr of pulegenic acid using diphenylphosphoryl azide, 6851
Darzens reaction, chiral version using boron methodology, 2857
Darzens, nitrogen analog of, forming aziridinecarboxylic esters, 121
Darzens–type reactions with 2–dichloromethyl–4,4–dimethyl–2–oxazolines, 87
Dieckmann cyclization methyl 4–methoxycarbonylethylmorpholine–2–carbox ylate, 2281
Diels–Alder 1–methoxycarbonyl–1,2–dihydropyridine – methyl acrylate adduct, 951
Diels–Alder addn 1,3–bis(trimethylsilyl)butadiene to 1,4–anthraquinone deriv, 1109
Diels–Alder addn of 1,4–naphthoquinone to 1–methoxy–4–trimethylsilyl–1,3–butadiene, 2197
Diels–Alder addn of cyclopentadiene to menthyl acrylate on alumina, 2303
Diels–Alder addn of CPD to MVK on kaolinite clays, effect of water, 2905
Diels–Alder addns in estrone synth, regiosel of catalysed addn 3–methylcyclopent–3–ene–1,2–dione to 3,4–dihydro–1–vinyl–naphthalene, 3357

Diels–Alder adducts of 1,5–cyclooctadiene to hexachloro– and 5,5–dimethoxy–tetrachloro–cyclopentadiene, 3289, 3293
Diels–Alder adducts of 2–trimethylsilyloxy–1,3–cyclohexadien–5–one cyclic acetal, 4011
Diels–Alder and retro—, cyclopentadiene and dimethyl fumarate/maleate on alumina, 5663
Diels–Alder cycloaddn 2,6–dialkoxyanthracenes to cholesteric fumarate esters, 1729
Diels–Alder cycloaddn benzoquinones to 5–vinyl–2,3–dihydrofurans, 1519
Diels–Alder cycloaddn, transition metal catalyst of, 5299
Diels–Alder cycloaddn, high pressure $EtAlCl_2$ catalysed, 3–methylcyclohex–2–en–1–one to dienes, 6445
Diels–Alder cycloaddn, Lewis acid–catalysed, cyclonona–1,2–dien–4–one ethylene acetal to 1,3–dienes, 6473
Diels–Alder cycloaddn, Lewis acid–catalysed, intramol of furan to enone by $MeAlCl_2$, 6477
Diels–Alder cycloaddns of 9–(2–trimethylsilylvinyl)–9–BBN, 7365
Diels–Alder cyclohexene synth by intramol cycloaddn of enol pyruvate to diene, 4095
Diels–Alder cyclopentadiene – dimethyl fumarate, catalysed by chiral Ti–complex, 883
Diels–Alder intramol approach to enantiosel synth of Δ^1–octalin, 4091
Diels–Alder reaction, intramol, silaketal group as tether for, 1145
Diels–Alder reaction, intramol, in synth reduced naphtho[1,8–*bc*]pyrans, 1183
Diels–Alder reactions of toluenesulfinylmaleate esters, 947
Diels–Alder reactions of bis(arylsulfonyl)acetylenes, 2177
Diels–Alder reactions of 3–acetoxy–2*H*–pyran–2–one with dissymmetric vinyl ethers, 3147, corrigendum, 6044
Diels–Alder reactions of furfuraldoxime; furo[2,3–*c*]pyridine *N*–oxide synths, 3199
Diels–Alder reactions of 3–bromo–2–pyrone, 5295
Diels–Alder reactions under microwave heating, 2363
Diels–Alder reactions, intramol, of quinodimethanes from benzocyclobutenes, 5469
Diels–Alder reactions, diastereoselective, subst butadienes and *N*–(α–methylbenzyl)maleimide, 5877
Diels–Alder reactions, chiral, 1–mesityl–2,2,2–trifluoroethanol as chiral auxiliary, 6839
Diels–Alder reactions, asymm, with pantolactone deriv of 2*H*–pyran–3(6*H*)–one, 7465
Diels–Alder synth Corey lactone using *O*–acryloyl D–pantolactone, 4557
Diels–Alder, 1,4–diacetoxybutadiene – methyl acrylate, stereochemistry, 963
Diels–Alder, arylazocyanide addn to cyclopentadiene, 907
Diels–Alder, asymmetric hetero–, in pyran synth, 935
Diels–Alder, asymmetric, use of D–pantolactone in, 1613
Diels–Alder, βγ–unsat α–ketoacids with 2–silyloxy–1,3–dienes, 1765
Diels–Alder, chiral Lewis–acid–catalysed, of β–pinene–derived keto–ester, 2005
Diels–Alder, chiral, of methyl 2–acryloyl–3,4–*O*–methylene–β–D–arabinoside, 5529
Diels–Alder, cyclopentadiene to α–methylene–β–lactones, 7033
Diels–Alder, enantiosel Ti(IV)–catalysed, conformation of transition state, 6289
Diels–Alder, enantiosel Lewis acid catalysed, of acryloyl threitol derivs, 7043
Diels–Alder, enantiosel, of dienes with 4–phenylsulfonyl–5–alkoxy–2(5*H*)–furanones, 7751
Diels–Alder, hetero–, 3–aza–1–thia–diene addn to DMAD, 2225
Diels–Alder, hetero–, forming 1–tosyl–1,2,3,6–tetrahydropicolinic acid deriv, 1649
Diels–Alder, hetero–, in water, cyclopenteno–, cyclohexeno–fused α–hydroxy–γ–lactones, 7529
Diels–Alder, hetero–, of glyoxal derivs to 1,3–dienes, 1723
Diels–Alder, hetero–, sugar arylazo–alkene addn to benzo–, naphtho–quinone, azodicarboxylic ester, 2513
Diels–Alder, imino–, *cis*–octahydropyrindin–4–ones by, 491
Diels–Alder, intramol SiO_2–catalysed, of dienylalkyl β–nitroolefins, 441
Diels–Alder, intramol, $LiBF_4$ catalysis, 1549
Diels–Alder, intramol, of dienes generated from 2–pyrone adducts, 2549
Diels–Alder, intramol, in taxane skeleton synth, 2629
Diels–Alder, intramol, synth 2–sila–5–oxabicyclo[5.3.1]undec–1(10)–en–6–one systems, regiosel synth 3–carboxycyclohexanones, 2715
Diels–Alder, intramol, of *N*–acyl–1–azabutadienes, 4371
Diels–Alder, intramol, forming octahydronaphthalene deriv, 4925
Diels–Alder, intramol, of *N*–allyl–, –propargyl–isoquinoline–1–carboxamides, 5481
Diels–Alder, intramolecular, of unsaturated hydrazides, 125
Diels–Alder, methyl acrylate to 2,6–bissilyloxy–3,4–dihydropyridine, 1401
Diels–Alder, of 4–phenyl–1,2,4–triazoledione to fused cyclohexadiene, 1299
Dimroth rearr in 1–benzyl–6–iminopurinone deriv, 97
Eschenmoser rearr, ketene aminal on 1,4–benzodioxin system, 5525
Eschweiler–Clarke methylation of β–aminoacid, anomalous, β–trimethylammonio–betaine, 3847
Eschweiler–Clarke methylation of polyamines, fragmentation reactions during, 7755
Evans aldol reaction of α–aminoaldehydes, stereochem, 7287
Favorskii rearr of dibromopulegone in chiral synth 2–amino–3–methylcyclopentanol, 6851
Favorskii rearrangement, aza–, α–bromo–amide to α–aminoacid, 2469
Freeman's reagent, for α–lithio–t–amine generation, 1975
Freeman's reagent, organolithium generation from and reaction with 2–(1–naphthyl)–oxazolines, 2095
Friedel–Crafts α–(phenylthio)–alkenylation of benzenoid compounds, 6563
Friedel–Crafts alkylation, 1,4–di(dodecahedryl)benzene, 5259
Friedel–Crafts alkylation by methyl chloromethoxyacetate, interception of HCl, 6171
Friedel–Crafts benzylation mesitylene on clay–$ZnCl_2$, benzene–accelerated, 1423
Friedel–Crafts conditions for oligomerization of acyl chlorides, 2153
Friedel–Crafts cyclization of β–acylamino–β–arylsuccinic acids, 6327
Friedel–Crafts reaction of α–phenylseleno–α–bromo– and bis(phenylseleno)–acetic esters with aromatic hydrocarbons, 5741
Fries rearr, photochemical, of benzenesulfonanilide in cyclodextrin, ortho selectivity, 2975
Gilman reagents from 2–bromocycloalk–2–enone ethylene acetals, applications, 605, 609
Gilman reagents, reaction with allyl mesylates, 855
Griffith–Ley oxidation of homoallylic steroidal alcohols to enediones, 3201
Griffith–Ley oxidation of 1,4–diols to butanolides, 3215

Grignard, *see* Grignard reactions and reagents
Grob (reverse Prins) fragmentation in bicyclooctane rearr, 515
Grob fragmentation, triple, of an aza–adamantane dione deriv, 4465
Heck arylation of vinyl butyl ether, synth aryl methyl ketones, 1753
Heck coupling, intramol, of 8–bromonona–2,8–dienoic ester forming 1,2–dimethylenecyclohexane deriv, 4937
Heck cyclization N–(2–haloallyl)cyclohex–3–enylamines to 2–azabicyclo[3.3.1]non–6–enes, 1695
Heck reaction with vinyl acetate and enol triflate, 1579
Heck reaction, double, of 1,8–diiodonaphthalene to acenaphthylene, 7241
Heck reaction, intramolecular, allylic alcohols to vinyl, aryl halides, 6113
Heck reactions with o–iodophenols, synth chromenes, 7739
Heck reactions, intramol, thallous salts suppress alkene isomerisation in, 687
Henry synth of β–nitroalcohols, improved method, 3225
Heyns rearrangement in 16–hydroxyestrone imine, 1213
Hilbert–Johnson synth sulfonyl nucleotide, dinucleotide analogs, 1267
Hofmann rearr of amide using $PhI(OCOCF_3)_2$, 4249
Horner–Emmons synth phosphonylfluoromethylene compd from inositol ketone deriv, 2207
Horner–Emmons synth unsaturated sugar sulfonates, 1267
Horner–Emmons unsaturated N–methoxy–N–methylamide synth, 1279
Horner–Wittig, aldehydes with 2–(1–ethoxycarbonylalkyl)–1,3–dimethyl–2–oxo–1,3,2–diazaphospholidine, 1317
Hosomi cyclization allylic trimethylsilyl aldehydo–esters to fused α–methylene–γ–butyrolactones, 387
Ireland–Claisen rearr forming 3–(1,1–dimethylallyl) dihydrocoumarins, 3209
Ireland–Claisen rearr in synth clerodin fragment, 5953
Ireland–Claisen rearr, double, in stereocontrolled two–directional chain synth, 7601
Ireland–Claisen rearrangements, double, in bis–3,6–dihydro–2H–pyran synth, 3957, 3961
Julia olefin synth, radical alternatives, 2703
Julia olefination, rigidified arachidonic acid analogs via, 495
Katsuki–Sharpless asymm epoxidation of (E)–2,5–dihydroxy–2,5–dimethylhex–3–ene, 3527
Katsuki–Sharpless epoxidation in chrysanthemic acid precursor synth, 2637
Knoevenagel condenation, in synth α,γ–dialkylidene–β–ketoesters, 7731
Knoevenagel condensation in synth shikimic acid and phosphonic acid analog, 4111
Knoevenagel condensations, catalysis by zinc chloride, 5821
Knoevenagel condn, modified, αβ–unsat aldehydes with enolates, 1791
Knoevenagel reaction of dimethoxy [3.3]metacyclophanequinone with malononitrile, 2215
Kornblum–Russell nitronate alkylation, effect of ultrasound, 4709
Koser's reagent, as catalyst for α–haloenone formn from sec alkynols, 2099
Kumada–Fleming–Tamao reaction, cyclopropanols from allyldimethylsilylcyclopropanes, 7513
Mannich base, C–methylation of phenol via, 2083
Markownikov addn of HCl to 1–methylcyclohexene, clay–catalysed, 3705
McKillop oxidation 2,4,6–tri–t–butyliodobenzene to diacetoxyiodo(III) deriv, structure, 1327
McMurry reductions of keto–esters by titanium on graphite, 6695
Meerwein–Eschenmoser–Claisen rearr of cyclic O–allyl ketene aminals, 4199
Meerwein–Ponndorf, using lanthanide isopropoxides and isopropanol, 2355
Michael addn activated nitriles to αβ–unsat esters and ketones, Rh–catalysed, 2807
Michael addn ketene silyl acetals to enones, 2405
Michael addn of amines to nitrocycloalkenes, 1363
Michael addn reactions, asymm, with pantolactone deriv of 2H–pyran–3(6H)–one, 7465
Michael addn to 2–arylidene–1–tetralone – $Cr(CO)_3$ complex, diastereoselection, 1085
Michael addn, double, of methyl acrylate to 2,6–dimethylcyclohex–2–enone Li enolate, 5531
Michael addns of β–keto–δ–valerolactone, 3063
Michael addns on alumina, 2811
Michael addns to 2,2–diaryl–1,1–dinitroolefins, mechanistic considerations, 5163
Michael addns to enones, LiI–catalysed, 5373
Michael addns to Schiff bases from glycine esters, 3727
Michael reaction, homologous, in substn $Fe(CO)_4$ complexes of γ–acetoxycrotonates, 1141
Michael, double coupling of cyclic β–enaminoesters to 2–nitro–3–pivaloyloxypropene, 2319
Mitsunobu dehydration in hydroxycyclohexanes, regioselection, 1209
Mitsunobu acylation of deoxynucleosides, 5357
Mitsunobu alkylation of phenols, stereospecific, 1901
Mitsunobu cyclization 1,4– and 1,5–amino–alcohols to pyrrolidines, piperidines, 161
Mitsunobu reaction for alcohol config inversion, p–nitrobenzoate as incoming nucleophile, 3017
Mitsunobu reaction forming macrocyclic lactone, 5781
Mitsunobu reaction, indole ring participation in, stereochem, 3779
Mitsunobu reaction, intramol, in 19–epi–avermectin A_{1a} synth, 2719
Mitsunobu reactions, modified, in synth carbocyclic nucleoside analogs, 7029
Mitsunobu silylation of phenols and alcohols, 7159
Mukaiyama method for synth β–lactams from acids and imines, 581
Mukaiyama reaction, 10–methylacridinium perchlorate as catalyst in, 2405
Mukaiyama reaction, intramol, in 19–epi–avermectin B_1 synth, 2719
Mukaiyama reagent for macrocyclic lactam formation, 1649
Nazarov cyclization of dienone esters, tetrahydropyrones, by trimethylsilyl triflate, 7731
Nazarov cyclization, silyl–assisted, angular triquinane deriv by, 2135
Nazarov cyclization, theoretical study of reaction pathway, 725
Nicholas reaction forming Co–complexed allyl propargyl amine, 2137
Nicholas reaction, intramol, in synth bicyclo[7.3.1]trideca–2,6–diyn–13–one, 3679
Norrish types I and II reactions with medium/large ring ketones in zeolites, 7675
Oppenauer, using lanthanide alkoxides and 2–butanone, 2355
Paal–Knorr synth trisubst pyrroles, 1765
Passerini reaction in synth azinomycin fragment, 3807
Paterno–Büchi reaction, synth 3–trimethylsilyloxy–oxetanes, 7037
Pauson–Khand cyclization, forming 2–oxabicyclo[3.3.0]oct–4–en–6–one derivs, 2105, forming reduced cyclopent[a]indene–2,4–dione derivs, 2109

Pauson–Khand reaction in synth of 3–azabicyclo[3.3.0]oct–5–en–7–ones, 2137
Pauson–Khand reactions of hydroxy–enyne–$Co_2(CO)_6$ complexes, 6285
Payne rearr in an epoxide from D–mannose forming 1,5–anhydro–D–allitol deriv, 6089
Payne rearr in endo–3–hydroxy–exo–4,5–epoxy–tricyclo[5.2.1.$0^{2,6}$]dec–8–enes, 3127
Perkow reaction in synth of α–(dimethylphosphoryloxy)vinyl phenyl sulfide, 3309
Peterson olefination of SO_2, α–arylsulfonyl–α–alkenyl sulfenes intermeds in thiophene synth, 3867
Peterson olefination using (α–silylalkyl)stannanes, 3285
Pictet–Spengler (homologous) cyclization, of tryptamines, 619
Pictet–Spengler cyclizations forming tetrahydro–β–carbolines, stereochemistry, 175
Pictet–Spengler cyclization forming indolo–quinolizidine derivs, 4303
Pictet–Spengler reaction of tryptophan methyl ester, 3895
Pictet–Spengler tetrahydroisoquinoline synth, asymmetric, 2995
Pomeranz–Fritsch isoquinoline synth, short cuts in, 1775
Posner synth of 1–alkenyl C–glycosides, 2199
Prins reaction with $\Delta^{9(11)}$–ring A–aromatic steroids, methano–bridging in, 3673
Prins reaction, hydroxymethylation of 3–methoxyestra–1,3,5(10),n–tetraenes, 743
Prins reactions, reverse, in cleavage of fused cyclobutane–1,3–diols, 6011
Pschorr reaction forming anhydrolycorinone, 65
Pummerer reaction for α–sulfoxide–sulfone conversion into carboxylic acid, 3309
Pummerer reactions, additive, of vinylic sulfoxides, 6973
Pummerer rearr, modified, for nucleoside O–alkylthioalkylation, 7593
Ramberg–Bäcklund SO_2 extrusion from 4–silyloxy–3–silyloxyethyltetrahydrothiopyran 1,1–dioxides, 7055
Reformatsky reaction using α–bromopropionate ester and 5–methoxy–1–tetralone, 2083
Reformatsky reaction with *N*–methoxy–*N*–methyl bromoacetamide, 2525
Reformatsky reaction, intramolecular, SmI_2–promoted, 6371
Reformatsky reaction, silyl, microwave fluoride–activated, solid–liquid media, 1179
Reformatsky reactions with methyl 2,2–dichloro–3,3,3–trifluoropropionate, 339
Reformatsky reactions with (+)–*trans*–2–phenylcyclohexyl bromoacetate, 3417
Reformatsky reactions with ethyl bromodifluoroacetate, 7255
Reimer–Tiemann, in sulfolane with KF, formation of $PhOCHF_2$, $(PhO)_3CH$, 3691
Ritter reaction of hindered carbocation, 871
Ritter reactions with episulfonium ion intermediates, enantioselectivity, 4317
Sakurai reaction, silyl–modified, 4779, intramol version forming dihydropyrans, 4783
Schmidt reaction with 1–carbethoxy–4–piperidinone, 2469
Sharpless asymmetric epoxidation, forming cyano–epoxides, 2045
Sharpless chiral epoxidation of (*E*)–5–hydroxypent–3–enal dimethyl acetal, 5717
Sharpless epoxidation in chiral synth octane–1,2,3–triol, 1649
Sharpless epoxidation of electron–deficient hydroxy–olefins, 2687
Sharpless reagent, modified, oxidation *N*–tosyl furfurylamine by, 1467
Sharpless–Katsuki epoxidation of *cis*–pent–2–ene–1,5–diol 5–*O*–TBS deriv, 2797
Simmons–Smith cyclopropanation in cyclopropyl aminoacid synth, 541
Smiles rearrangement in benzothiazolyl β–hydroxyalkyl sulfones, 1175
Staudinger β–lactam synth, chiral examples, 3105, 3109
Staudinger β–lactam synth for 3–phenylisoserine, 3151
Staudinger reaction and cyclization of 2,2′–diazidobenzylidene aniline, 2979
Staudinger reaction with *o*–azidobenzaldehyde, 2521, corrigendum, 4056
Staudinger, double, with ethyl α,*o*–diazidocinnamate, 4401
Stevens [2,3] rearr in 1–methyl–1–phenacyl 1,2,3,6–tetrahydropyridinium salt, 2827
Stille coupling of stannanes to β–ketoester enol triflates, 6675
Stork cyclopropane cyclization in chrysanthemic acid precursor synth, 2637
Strecker synth, silyl modified, in pseudopeptide synth, 7579
Strecker synth, silyl modified, diastereoselective, 7597
Suzuki coupling dicyclohexyl 1–(trimethylsilyl)alkenyl borane, 43
Suzuki reaction with Markovnikov vinylboranes, 2311
Taylor synth of lipophilic chlorin, 3481
Tishchenko reaction, intramol, γ–oxy–δ–ketoaldehydes to δ–lactones by SmI_2OBu^t, 5097
Ullmann coupling, intramol template–directed, 6919
Vilsmeier formylation trifluoromethyl ketones, β–chloro–trifluoromethylacroleins, 643
Vilsmeier–Haack formylation of *N*–aroyl–2,3–dihydropyrrole, 2233
Vilsmeier–Haack formylation of glucal, galactal ethers, 3875
Vilsmeier–Haack reagent *with* 1,5–diketones, synth 4*H*–*pyran*–3–aldehydes, 3235
Vorbruggen coupling in nucleoside synth, thioglycosides in, 3627
Wadsworth–Emmons, intramol, cyclic enol ethers from, 6947
Wagner–Meerwein rearrs on electrophilic addns to brexadiene, 6429
Wediqvist reaction, electrochemical analog, 2655
Weitz–Scheffer epoxidation of electron–deficient olefins, 2687
Wessely oxidation of *o*–(ω–alkenyl–)phenols, homo–twistanes and –isotwistanes from, 4439
Westphal condensation, indolo[2,3–*a*]quinolizinium salts, 7575
Wittig and Wittig–Horner reactions in synth di–and tetra–(1,3–dithiol–2–ylidenemethyl)benzenes, 2897
Wittig condensation, high *E*–selectivity in synth 4–alkenyloxazoles, 1609
Wittig reaction using arsonium ylid, 1165
Wittig reaction, synth 2*H*–pyrano–[3,2–*b*]– and [2,3–*c*]–pyridines, 627
Wittig reactions in eicosanoid synth from methyl 2–deoxy–D–riboside, 2515
Wittig reagent, thiazolecarbonylmethylene, 3–deoxy–2–hex–, –oct–ulosonic acid synth *via*, 3247
Wittig rearr in taxane skeleton synth, 2629
Wittig rearr, [2,3]–, of allyloxyacetates *via* B and Sn enolates, 4647
Wittig rearrangement, 1,4–, vinyl group transfer from O to C in in γ–lithioalkyl vinyl ethers, 4425
Wittig rearrangement, [2,3]–, of alkenyloxyacetate ester, 5137
Wittig type synth of 1–methoxy–4–trimethylsilyl–1,3–butadiene, 2197
Wittig synth maleimide deriv from α–ketoester, 2399
Wittig–Horner addn and alternative synth of intermediates, 7123

Wittig–Horner synth vitamin D_3 triene, 2813
Wittig–Still rearr of allyl silylmethyl ethers, 5401
Wolff rearr, photochemical, of 2–diazo–4–methylcyclopentane–1,3–dione, 3051
Wolff rearrangement, thermal, of bis(methoxycarbonyl)carbene, 995
Wolff rearrangement, with cyclization, of *o*–alkynyl–α–diazoacetophenones, 5923
Yamaguchi macrolactonisation in macrodiolide synth, 1495, 1499

Naphthalenes

3–acetyl–1–benzyloxy—, synth by Zr methodology, 5465
2–acetyl–1,2,3,4–tetrahydro–2–hydroxy–5,8–dimeth oxy–, enantiosel synth, 867
2–acyl–α–tetralones, singlet oxygen hydroperoxidation, 1471
2—aldehyde, 1–hydroxy–7–methyl–, condn with 1–tetralone in dibenz[*c*,*h*]xanthen–7–one synth, 3009
2–alkyl–1,2–dihydro–1–methyl–1–(2–oxazolin–2–yl) –, from alkyl–Li and MeI with 2–(1–naphthyl)–2–oxazolines, 2095
1–aminotetralones, amination and reduction, 5927
angular (4a)–methyl Δ^6–octalin–1–ones, synth, 6445
2–arylidene–1–tetralone – $Cr(CO)_3$ complex, diastereoselective Michael addn to, 1085
1–benzenesulfonylamino–, oxidation by iodosobenzene, 2133
(*R*)–1,1′–binaphthalene–2,2′–diol, Ti(IV) complex in asymm hetero–Diels–Alder synth, 935
2–(1,1′–binaphthyl) *meso* substits in chiral wall porphyrin catalyst, 2445
binol–derived chiral Ti(IV) catalysts for carbonyl–ene cyclizations, 6571
1,1′–binaphthyl–2,2′–bis(dicyclohexylphosphine) dioxide, and 5,5′,6,6′,7,7′,8,8′–octahydro deriv, synth, resolution, 7283
1,1′–binaphthyl–2,2′–diol, chiral, organo–Cu addns to monocinnamate, 7277; alkylation α to CO of lithiated mono–crotonate, –arylacetate, 7281
bis–(1,1′–binaphthyl) cyclophanes, chiral recognition in naproxen complexation, 6276
2,2′–bisdiphenylphosphino–1,1′–binaphthyl, chiral Ru ligand for asymm hydrogenation, 3101
1,8–bismethylseleno—, oxidation, 4345
carbene addns to bonds 1,2– and 2,3–, 995
1*H*–cyclopropa[*b*]–, insertion of benzyne, dichlorocarbene, TCNE, PTAD, 7097
2–decalones by Lewis–acid catalysed silyl enol ether–olefin–epoxide bicyclizations, 7005
decalin deriv synth, fragment of azadiractin molecule, 6187; formation of the same by degradation of azadirachtin, 6183
trans–decalin–2–one cyanohydrins, 1,1–disubst, stereochemical dependence of rates of reversion, 6513
1,2–dihydro–, synth from benzyl alcohols and allenylsilane, 2327
1,2–dihydro—, addn of *N,N*–dichlorocarbamate and further manipulations, 4045
3,4–dihydro–6–methoxy–1–vinyl—, regiosel of Lewis–acid catalysed addn 3–methylcyclopent–3–ene–1,2–dione, 3357
2–dimethylaminomethyl–α–tetralone, photocyclization to cyclopropa–fused isomer, 7151
3,8a–epoxy–Δ^1–octalin–5–ones, synth by catalysed intramol cycloaddn, 6477
2–ethyl–2–hydroxy–1–hydroxymethyl–5–methoxytetralin, asymm synth aklavinone fragment, 7671
(±)–2α–hydroxy–1α–(2–hydroxyethyl)–2β,5,5,9α–tetramethyldecalin, synth perfume precursor, 4119
2–hydroxy–1–naphthaldehyde Schiff base with dipeptide, Ti(IV) complex chiral cyanohydrin synth catalyst, 4333
4–hydroxy—1,3–dicarbonitriles, synth from benzenoid precursor, 4133
5–methylenedecahydro—1–ols, synth using $SnMe_3$ as directing group, 5219
2–naphthols from *o*–alkynyl–α–diazoacetophenones by Wolff rearrangement with cyclization, 5923
1–(prop–2–enylidene)–, 1–(prop–2–ynylidene)–tetralin, synth by Pd–catalysed organo–Sn, –Zn chemistry, 7703
9–decalyl radical, generation, stereoisomerism (or not), 5385
furo–fused, by cycloaddn 5–vinyl–1,2–dihydrofurans to benzoquinones, 1519
hexahydro–, octahydro–, in mevinic acid synth, 4651; in drimane synth, 4655
hexahydro—, pravastatin, ring–A–seco–mevinic acid analogs, 3911
lithio–polyoxy–, perylenequinones by $FeCl_3$, then $K_3Fe(CN)_6$, oxidation, 859
[6](1,4)–naphthalenophane, cycloaddns with TCNE, DMAD, 359
Δ^1–octalin, enantiosel synth of part structure of tetronolide, 4091
Δ^3–octalin–1–carbaldehyde deriv, part structure of tetronolide, synth, 4925
octalin lactone ester, synth by double Michael addn of acrylic ester to 2,6–dimethylcyclohex–2–enone, 5531
octalin–1–one derivs *via* Diels–Alder reactions, 2005
octalin–1–one derivs, microbial hydroxylation, 1983
palladio–, alkoxylation by Mo–peroxides in alcohols, 675
reduced 2,6–dioxy– and derivs, in enantiosel route to clerodanes, 2621
stereocontrol in alkylation, etc, of α–tetralols, 2087
stereocontrolled reduction and oxidation in α–tetralones, 2083
thysanone, 1,4–naphthoquinone deriv, 5279
α–tetralones, by rearr of 1,2–dihydro–2–oxy–2–vinylbenzocyclobutenes, 819
1,2,3,4–, 1,4,6,7– and 1,3,5,8–tetrachloronaphthalenes, photodehalogenation, 5705
1,2,3,4–tetrahydro–, microbial hydroxylation to (*R*)–1–hydroxy—, 3887
1,2,3,4–tetrahydro–1,4;2,3–diepoxy–, rearr, 851
1,4,5—triols, differentially protected, 6735

Natural products

15–cyanopuupehenol, tetracyclic phenol from unidentified Verongid sponge, 5671
2– and 4–thiocyanato–*neo*–pupukeanane, sesquiterpenoids from sponge *Phycopsis terpnis*, 4843
2–(1–hydroxy–6–methylheptyl)–5–hydroxymethylbutanolide from *Streptomyces virginiae*, marine actinomycete, struct, synth, 7001
2–(4′–hydroxy–3′–methoxyphenyl)–5–(3–hydroxyprop yl)–7–methoxybenzofuran–3–carbaldehyde, from *Salvia miltiorrhiza*, 2061
3,4–dihydroxy–γ–butyrolactones (un–named), diterpenoids from alga *Bifurcaria bifurcata*, 3577
α–hydroperoxy–diethyl peroxide, from four tunicate species, 4355; identity proposed as α–ethoxyethyl hydroperoxide, and origin questioned, 7303
bengamides, enantiospecific synth C_{10} side–chain acid, 3409
benzothiazoles, benzothiazolones, from *Micrococcus sp.*, 4847

biosynth of isobutyric, methacrylic acids in beetle *Scarites subterraneus*, 4849
butalactin, butanolide from *Streptomyces corchorusii*, 141
caissaarone, sea anemone purine, synth, 97
calyculin, synth of subunits, spiroketal C14–C25, 4855; oxazole C26–C37 and diol C9–C13 sections, 4859
cedrelin A and B from *Cedrelinga catenaeformis*, and paralycolin A, phenanthro[6,7-*b*]pyrans, struct, 2793
cyclotetrapeptide cytotoxins from tunicate *Cystodytes delle chiajei*, 2609
dichlorolissoclimide, labdane deriv from ascidian *Lissoclinum voeltzkowi*, 6701
didemnilactone, neodidemnilactone, polyunsat nonanolides from tunicate *Didemnum moseleyi*, 5127
eudistomidins E, F, β-carboline metabolites from tunicate *Eudistoma glauca*, 3539
favelanone, tetracyclic cyclopropane diketone from *Cnidoscolus phyllacanthus* bark, 5555
favelines, dibenzocycloheptenes from *Cnidoscolus phyllacanthus* (Euphorb.), 3083
furano-sesterterpenoids from dictyoceratid sponge, 6415
germacranolide–valine adduct dimer from *Centaurea aspera*, 5193
gymnemasaponins, antisweet principles from *Gymnema sylvestre*, 789
halitudinal, a marine diterpene aldehyde, 169
hericenones C, D, E, phenolic phthalides from fungus *Hericium erinaceum*, 4561
iejimalides C and D, macrolides from *Eudistoma* cf. *rigida*, 797
ilexosides A–D, triterpenoid glycosides from *Ilex crenata*, 3535
isovelleral, biomimetic formn from stearoylvelutinal in fungus *Lactarius vellereus*, 2541
itrabin, jetein, tetrahydrofuran-γ-lactone acetogenins from *Annona cherimolia* seeds; revised structures of laherradurin, otivarin, 6133
jereisterol A and B, 8,9- and 8–14-secosteroids from sponge *Jereicopsis graphidiophora*, 2149
kasallene, bromo-allene with 1,4-dioxan ring from alga *Laurencia obtusa*, structure, nmr, 4377
leporin A, 1-methoxy-2-pyridone from sclerotia of *Aspergillus leporis*, 5687
lissoclinotoxin A, benzotrithiole from tunicate *Lissoclinum perforatum*, 911
lydicamycin, pyrrolidine-tetramic acid antibiotic from *Streptomyces lydicus*, 213
madurolide, 24-membered macrolide from marine actinomycete, 2323
mamanuthaquinone, rearr drimane-benzoquinone deriv from sponge *Fasciospongia* sp., 6687
mediterraneols E1, E2, diterpenoids from brown alga *Cystoseira mediterranea*, 2477
mirabazoles B and C, didehydeomirabazole A, cytotoxins from blue-green alga *Scytonema mirabile*, 2593
muricatacin, acetogenin deriv from *Annona muricata*, 1137
musclides, aliphatic 1,4-diol mono-hydrogen sulfates from *Moschus moschiferus*, 1733
nazumamide A, thrombin-inhibitory tetrapeptide from sponge *Theonella* sp., 7073
neamphine, 5-methylimidazo[4,5-*e*]-1,2-thiazin-4(5*H*)-one, isol from sponge *Neamphius huxleyi*, struct, 2707
oncorhyncolide, dihydropyrone metabolite from sea water, 315
oscillariolide, 14-membered macrolide from blue-green alga *Oscillatoria sp.*, 2391
paramiltioic acid, rearranged norabietanoid from *Salvia paramiltiorrhiza*, struct, 5797
pateamine, 2,4-bridged thiazole dilactone from sponge *Mycale* sp., 6411
pentadecane-2,5,8,11,14-pentaone from myxobacterium *Myxococcus xanthus*, 3559
plakortolide, peroxidic lactone from sponge, 7167
precursors to chaetoglobosin A isol from *Chaetomium subaffine* mould in presence of cytochrome P-450 inhibitors, 4533
prelaureatin, cyclic bromo-ether from *Laurencia nipponica*, 5597
prianosins C and D, from sponge *Prianos melanos*, structure revision, 1227
radermachol, red pigment from *Radermachera xylocarpa*, syth, 5283
reticulatine A, B, fascaplycin B, β-carboline alkaloids from *Fascaplysnopsis reticulata* sponge, structs, 1843
sesquiterpenoid isocyanides from nudibranch *Phyllidia pustulosa*, 2-isocyanoallopupukeanane, 4α-isocyano-9-amorphene, 7291
syzygiol, polyketide from *Syzygium polycephaloides*, 211
toddacoumalone, mixed coumarin-quinolone dimer from *Toddalia asiatica*, 6907
un-named 10,18-epoxy-cembrenoid diterpene from coral *Sarcophyton sp.*, 2825
un-named 2,3;4,5-diepoxytetrahydrofuran-butenolide pseudopterane metabolite from coral, 4661
zeyloxanthone from *Calophyllum tomentosum*, structure as originally assigned, 4995

Nickel and compds

bis(diphenylphosphino)ferrocene $NiCl_2$ complex, cross-coupling catalyst, 189
bis(tosylaminobenzylidene)ethylenediamine complex for epoxidation using dioxygen, 6891
halogenation of porphyrin-Ni complexes by phenylselenyl halides, 5015

Nitrenes

α-azidocinnamates, intramol reactions with 1,3-dienes, bridged isoquinolines, 1409Nitril oxides
ring-opening and recyclization of 5-anilino-3-methoxy-2,1-benzisoxazole 4,7-quinone, 5825
1,3-dipolar cycloaddn to benzo[*b*]thiophene 1,1-dioxide, 3699
cycloaddn to dithioesters, 4329
cycloaddn to olefins, 3(2*H*)-furanones and dihydro- *via*, 683
from hydroximoyl chlorides and organometallic species, stereosel addn to allylic alcohols, 6367
intramol cycloaddn to olefins, double diastereoselectivity, 4259
protonated, in reaction of nitroacetate, α-nitroacetophenone, with aromatics, 3075
regiosel cycloaddn to C=N bond of 2*H*-pyrroles, 3709

Nitriles

1,2-dicarbonitriles, from epoxides by catalysed reaction with cyanide, 4775
2,2-bis(trifluoromethyl)ethene-1,1-dicarbonitrile, reactions with nucleophilic olefins, 1871, reactions by hydride abstraction, 1875
2,3-epoxy-4-hydroxybutyronitrile, chiral material in asymm synth 2,3-epoxybutane-1,4-diols, 6731
3-(dicyanomethylene)phthalide, pseudoanhydride, 3449
3-bromo-2-ethylthioacrylo—, use in cyanonaphthol synth as cyanoacetylene equiv, 4133
4-penteno-, by aza-Claisen rearr from *N*-allyl amides, 179
α-arylpropionitriles, enzymic kinetic resolution, 1343
α-methylene—, synth *via* vinylsulfoximines, 3119

acrylo—, $ISiCl_3$–promoted reaction of aromatic aldehydes, *N*–arylidene 3–aminopropenal, 5421
activated –, Rh–catalysed Michael addn to αβ–unsat esters, ketones, 2807
β–hydroxy—, by addn of dichlorocerio–acetonitrile to ketones, 5473
β–hydroxyalkyl—, by metal salt catalysed action of cyanide on epoxides, 4775
chrysanthemonitrile synth from β,β–dimethylacrylonitrile and allyl phenyl sulfide, 2637
cycloaddn to α–oxocarbenes, oxazoles from, 17
formn on work–up of CSI–allylsilane adducts, 2265
γδ–unsat – from ketenes and allylic iminophosphoranes, 4041
hydrolysis, selective, using immobilised enzyme, 341
malondi—, reaction with chalcone reinvestigated, 5375
Mitsunobu *C*–alkylation of *o*–nitroaryl acetonitriles, 7195
nitrile sulfides, thiofulminic acid, generation, gas–phase detection, 1487
radical synth using sulfonyl cyanides, 3321
synth secondary amides from using aldehydes and $SiCl_3I$, 1825
trans–1–cyano–2–(1–hydroxyalkyl)–oxirane, asymmetric synth, 2045
trimethylsilyl acetonitrile, silyl–Reformatsky reactions, 1179

Nitrilimines
regiosel cycloaddn to C=N bond of 2*H*–pyrroles, 3709

Nitro compds
(±)–*trans*–1,2–dimethyl–1,2–dinitrocyclohexane, synth, 1711
1,5–anhydro–4,6–*O*–benzylidene–2,3–dideoxy–3–nitro–D–hex–2–enitol, acidity of 1–protons, 5809
2,2–diaryl–1,1–dinitroolefins, Michael addns to, mechanistic considerations, 5163
2–nitro–1,3–dienes, synth, cycloaddn to enol ethers, 5607
2–nitro–3–pivaloyloxypropene in synth of nitro–bicyclo[3.n.1]alkanone systems, 2319
2–nitropropane anion, substitution of chloromethyl–trimethyl–*p*–benzoquinone, 4125
β–nitrostyrene, cycloaddn to butadiene, isoprene, 1695
C–nitromethylation of monosaccharides *via* cobaloxime derivs, 3639
chlorosilane–promoted Henry synth of β–nitroalcohols, 3225
cycloalkenes, amine addn, ring fusion to, 1363
dimethylnitronate anion, reactions with diazonium ions, 5449
ethyl nitroacetate, α–nitroacetophenone, acid–promoted reaction with aromatics, 3075
N–nitro–aziridines, –azetidines, formation from aziridines, azetidines, with N_2O_5, ring–opening to nitratoalkyl nitramines, 4985
nitro–olefins in synth (±)–estrone derivs; allylic rearr of nitro group, 623
nitro–olefins, β–alkylthio– and β–phenylsulfonyl–, S–group substn by alkyl–Cu–Zn reagents, 441
nitroalkanes, reduction to hydroxylamines, amines, by SmI_2, 1699
nitroalkenes, oxidative addn of hydroxide ion forming nitrooxiranes, 2285
nitroarenes, Ru–catalysed reductive acylation to acetanilides by AcOH and Me formate, 4917
nitronate alkylation, effect of ultrasound, 4709
reduction of nitroalkenes by $Zn(BH_4)_2$ in DME to oximes or nitroalkanes, 3579
steroidal α–nitroketones, trifluoroacetyl nitrate and enol acetates, tautomerism, 5353

Nitrones
4–azahomoadamant–4–ene *N*–oxides and derived fused oxaziridines, isoxazolines, pyrroles, 4965
6–ethoxy–5,6–dihydro–4*H*–1,2–oxazine *N*–oxide, synth, cycloaddn to acrylonitrile, 2517
cycloaddn to chiral allyl derivs, 1659
from oxime allyl ethers by [2,3]–sigmatropic shifts, trapping, 279
N–tetrahydropyranyl—, addn of aryllithium reagents, 3783

Nitrosamines
N–nitrosopyrrolidines, bisignate n–π^* Cotton effect in, 3255

Nitroso compds
2,4–dinitro–6–nitrosoaniline, by photolysis of *N*–picryl aminoacids, 5823
acetyl, benzyloxycarbonyl, trapping by dihydroxycyclohexadienes, 6077
acylnitroso group, intramol cycloaddn to 1,3–diene, 4325
chiral nitrosocarbonyl imines, cycloaddn to 3–silyloxy–2–aza–1,3–butadienes, new route to RCONO,5349
nitrosobenzene, addn to 1,3–diradical, 4283
nitrosothio–ketenes, generation, thermal decomposition, 4023

Nitrogen heterocycles
1,2–diazepan–5–ones, synth, *N*– and CO–protection, 6629
5,8–methano–benzo[3,4]cyclobuta[1,2–*g*]phthalazine system, hexahydro–, 7115
azaphenanthrenes – benz[*h*]isoquinoline, benzo[*f*]quinoline synth, 3871
azonane system from cyclooctenes, fused, 6219
diazecane–2,6–diones, 3,4–diphenyl–, synth by [3,3]–sigmatropic rearr, 4517
diimidazo[1,5–*a*;1′,5′–*d*]pyrazine–5,10–dione, reaction with 2–bromoaniline, 6915
imidazo[4,5–*d*]–1,2,3–triazin–4–one conversion into pyrido[1,2–*a*]purin–10–one, 5693
pyrazolo[3,2–*i*]purines, synth from 6–enamino–purines, 7415
see also the individual ring systems

Nitroxides
1,3–dihydro–1,1,3,3–tetramethylisoindole 2–oxyl, trapping 1,3–cyclopentanediyl, 1405
α–diethylphosphoryl piperidine–, pyrrolidine–1–oxyls, 3841
α–phosphonyl pyrrolidine –, synth, ESR, 2125

NMR
2D methods in structure detn viridenomycin, 659
aminoacid sequence in a tetrapeptide by HBMC and ROESY, 7073
anomeric assignment by $^3J_{H-F}$ values in 2–fluoro–2–deoxyarabinosides, 1287
boron–11, transient enol ate–complexes and boronate esters, 1503
carbon – for identification of site of acylation of sucrose, 3495
carbon – of diaryl 1,4,2–oxathiazolium and 1,3,4–oxathiazolium salts, 4329
carbon – of oxycodone, oxymorphone hydrochlorides, hydrated C=O group observed, 3763
carbon – of stereoisomeric trimethylsilylstyrenes, 43
carbon –, of 3a–*o*–nitrophenyloctahydroindol–4–ones, 5183
carbon chemical shifts in 9–phenyl– and 9–(4–cyanophenyl–9,10–dihydroanthracene anions, 5659

carbon CIDNP of SEO of tetramethoxybenzpinacolone by benzoyl bis(2,6–difluorophenyl) C^{+} ion, 3187
carbon resonances in hindered carbocations, dipole–dipole relaxation, rotation, 871
carbon, phosphorus, of 8–hydroxyquinoline–PCl_3 products, 75
carbon, selenium, of selone–diene dihydroselenopyran adducts, 7389
carbon –, *see also* proton, carbon –
chemical shifts in bis–ansa polyamide strapped porphyrins, CO complexation in myoglobin models, 2129
cyclothiazomycin, renin inhibitor from *Streptomyces* sp, 217, 221
dynamic – of inter–ring bridged triarylboranes and congeners, 6363
dynamic –, of 9,14–dimethyl–10,11,12,13–tetradehydro[19]annu lenone in neutral and acid soln, 5129
dynamic proton – of dihydroxycalix[4]arenes, solution conformation, inversion barrier, 5155
dynamic, *cis*–3–benzyloxycyclohexyl chlorodimethylstannane, diastereotopomerisation of Me groups, mechanism, 4945
effects on spectra of Ca^{2+} complexation in 21–membered macrocyclic tetralactam, 919
fluorine, of (*p*–fluorophenyl)diphenylmethylsulfenyl chloride in mechanistic study of desulfurization, 7633
fluorine, of fluorinated polymethine cyanines, 4595
long–range couplings in BE 10988, a 3–(2–thiazolyl)indole–4,7–quinone, 2791
modified Mosher method for abs configuration determination, of cembranolides, 2923, of aminoacids and amines, 2939
nitrogen, phosphorus, of spiro–P(V)–phosphazenes, 501
NOE in olefin stereochemistry determination, 13
phosphorus – of $(Et_2N)_2C^{+}–P{=}P–NR_2$ and $(R_2N)_2C^{+}–P{=}C(NR_2)_2$ cations, 2775
phosphorus – of dithiophosphoryl hydroxy–aminoacids, 1347
phosphorus – of spirocyclic hydridophosphorane, 763
phosphorus, investigating mech phosphoryl N–O migration, 137
phosphorus, of 1,2λ^5–azaphosphorines, vinylphosphine oxides, 2619
phosphorus, of 2–(methylthio)diphenylphosphonio 1,3–dithianes, 7329
phosphorus, of 8–hydroxyquinoline–PCl_3 products, 75
phosphorus, of aminodichlorophosphines and a diaza–phosphole, 6433
phosphorus, of ethene–1,1–bis(diphenylphosphine) disulfides, 3631
phosphorus, of *myo*–inositol hexaphosphate and derivs, 1863
phosphorus, of *N*–benzoyl–*O,O*–dialkyl–*N*–phenyl phosphoramidates, 4193
phosphorus, of phosphiranes and phosphirenes, 6537
phosphorus, of phosphorodiamidothiolates, phosphinyloxysulfonates, bisdialkylaminophosphinyloxysulfonates, 4427
phosphorus, of spiro–P(V)–phosphazenes, 501
proton – of free and incarcerated DMF, 5111
proton – of hericenones C, D, E, phenolic phthalides, 4561
proton – of polyhydroxy–quinolizidines and –indolizidines, 5853
proton – of protein complexation to neocarzinostatin chromophore, 3175
proton – [3.3] and [4.4]orthopara–, [3.3]orthometa–cyclophanes, conformational inversion, 2117
proton chemical shift evidence for complexation of organics with square Pd complex in aqueous soln, 5589
proton nOe of 1–oxaspiro[5.5]undecane system, stereochem, 3937
proton, carbon – of bis–methyltriazenoethane, 183
proton, carbon, 1–, 2–D Inadequate, Coloc, Hmbc, of vinaxanthone, 4737
proton, carbon, 2–D, of unnamed 2,3;4,5–diepoxytetrahydrofuran–butenolide pseudopterane metabolite from coral, 4661
proton, carbon, COLOC, of madurolide, 24–membered macrolide from marine actinomycete, 2323
proton, carbon, COLOC, of toddacoumalone, mixed coumarin–quinolone dimer, 6907
proton, carbon, COSY, HQMC, HOHAHA, of oscillariolide, 14–membered macrolide, 2391
proton, carbon, COSY, HOHAHA/MLEV 17, of jadomycin, 1,3a–dihydrobenz[*b*]oxazolo[3,2–*f*]phenanthridine 8,13–quinone deriv, 6301
proton, carbon, COSY, NOESY, of cyclothiazomycin, 217, 221
proton, carbon, COSY, nOe, of oncorhyncolide, bacterial metabolite, 315
proton, carbon, COSY, NOESY, of 24,28–dinor–18α–oleanane from petroleum, 2959
proton, carbon, COSY, NOESY, ROESY, HMBC, of depsipeptides enopeptin A and B, 7707
proton, carbon, COSY, of indole alkaloids aspidochibine, 3–oxo–14,15–dehydrorhazinilam, 4949
proton, carbon, COSY, of bicyclic bromoallene from seaweed, 4377
proton, carbon, COSY, ZQCOSY, HETCOR, COLOC, nOe, of sponge alkaloids kimbasine A and B, 2347
proton, carbon, DQF– and LR–COSY, NOESY, HETCOR, of cyathostemmine, shikimic acid deriv, 6117
proton, carbon, HBMC, COLOC, of favelanone, tetracyclic cyclopropane diketone, 5555
proton, carbon, HCC COSY, of zeyloxanthone, 4995
proton, carbon, in structure determination of gramilaurone, 1893
proton, carbon, NOE in butalactin, 141
proton, carbon, nOe, of fused cyclotridecanetrione deriv, precursor to chaetoglobosin A, 4533
proton, carbon, nOe, of litebamine, fused phenanthrene alkaloid, 4169
proton, carbon, NOESY, of cedrelin A and B, 5,6–dihydrophenanthro[6,7–*b*]pyrans, 2793
proton, carbon, NOESY, of lydicamycin, 213
proton, carbon, NOESY, of cyclic pentapeptides, 6715
proton, carbon, of 2–isocyanoallopupukeanane, 4α–isocyano–9–amorphene, sesquiterpenoid isocyanides, 7291
proton, carbon, of a [14]annulenofuran, and estimate of aromaticity, 6319
proton, carbon, of A83543 A–D, macrolides with tetracyclic undecanolide aglycone, 4839
proton, carbon, of benthocyanin A, a furo–phenazinecarboxylic acid, 943
proton, carbon, of cembranoid, methyl sarcoate, COSY, NOESY, COLOC spectra, 2917
proton, carbon, of cyclotetrapeptides (L–Pro–L–Leu)$_2$ (L–Pro–L–Val)$_2$, (L–Pro–L–Phe)$_2$, 2609
proton, carbon, of diatropic azuleno–annulene cations, 655
proton, carbon, of dichlorolissoclimide, labdane deriv, 6701
proton, carbon, of dimethyl 1,3–diselenane–2–phosphonates, 4189
proton, carbon, of eudistomidin E, β–carboline tunicate alkaloid, 3539
proton, carbon, of favelines, diterpenoid dibenzocycloheptenes 3083

proton, carbon, of germacranolide–valine adduct dimer, 5193
proton, carbon, of halitudinal, diterpenoid cyclopenta[*c*]pyran aldehyde, 169
proton, carbon, of ilexosides A–D, triterpenoid glycosides, 3535
proton, carbon, of leporin A, mould metabolite with 1–methoxy–2–pyridone moiety, 5687
proton, carbon, of magniflorine, indole alkaloid from *Hamelia magniflora*, isol, pmr, cmr, 5153
proton, carbon, of mediterraneols E1, E2, 2477
proton, carbon, of mirabazoles B and C, didehydeomirabazole A, thiazolyl thiazolines, 2593
proton, carbon, of muricatacin, acetogenin deriv, 1137
proton, carbon, of paramiltioic acid, rearranged norabietanoid, 5797
proton, carbon, of pictamine, quinolizidine alkaloid, 3667
proton, carbon, of plakortolide, peroxidic lactone, 7167
proton, carbon, of secosteroids jereisterol A and B, 2149
proton, carbon, of strychnochromine, tetrahydroquinoline structure, 4295
proton, carbon, of tetra(bicyclo[2.2.2]octeno)–fused cyclooctatetraene and dianion, 6767
proton, carbon, phosphorus, of ethene–1,1–bis(diphenylphosphine) disulfides, 3631
proton, carbon, phosphorus, of phosphiranes and phosphirenes, 6537
proton, carbon, phosphorus, of 1,2λ^5–azaphosphorines, vinylphosphine oxides, 2619
proton, carbon, selenium, of dinaphtho[1,8–*bc*;1′,8′–*fg*][1,5]diselenocin and oxidation products, 4345
proton, carbon, selenium, detection of tetraarylselenuranes, 3179
proton, carbon, tellurium–125, of 1,5–ditelluracyclooctane and dication, 4537
proton, carbon, TOCSY, of breynin B, and breynin A undecaacetate, glucosidic spiroketals, 6847
proton, dynamic –, of 9,14–dimethyl–10,11,12,13–tetradehydro[19]annu lenone in neutral and acid soln, 5129
proton, HOHAHA, HOMOSD, NOE, of alatanins, anthocyanins from yams, 5575
proton, nOe, of 1–acylamino–5,8–diphenyl–2–aza–6–thiabicyclo[2 .2.2]octane–3–thione, 2529
proton, nOe, of pamamycins 635A,B, 649A,B, tetrahydrofuranoid macrolides, 3087
proton, NOESY, of macrocyclic tetra–2,4–imidazolylene di–carbonyl di–*m*–phenylene system, 3333
proton, of 6–(buta–1,3–dienyl)–3,4,4a,6,9,9a–hexahydro–2*H*–pyrano[3,2–*b*]oxepin, 4505
proton, of calix[4]arene derivs in chiral partial cone conformation, 7747
proton, of cyanodelphin, delphinidin tetra–*p*–hydroxybenzoyl heptaglycoside, 6375
proton, of dynemycin H, 6007
proton, phosphorus, of aminodichlorophosphines and a diaza–phosphole, 6433
proton, stereochemistry of reduced naphtho[1,8–*bc*]pyrans, 1183
proton, sterochem assignment of diastereomeric 2–methyl–5–phenylthiomethyl–non–3–ene–1,5–diols, 7123
proton–proton COSY, nOe, of unnamed 10,18–epoxy–cembrenoid diterpene from coral, 2825
proton–proton COSY, proton–carbon HETCOR, selective INEPT carbon, of 10α–hydroxymethylsparteine, 5915
proton–proton, proton–carbon COSY, in thysanone, 1,4–naphthoquinone 2,3–cyclic acetal, 5279
rate *exo–endo* exchange in crotyl–Mo complexes, 1271
selenium, detection of tetraarylselenuranes, 3179
selenium, of dinaphtho[1,8–*bc*;1′,8′–*fg*][1,5]diselenocin and oxidation products, 4345
selenium, of selone–diene dihydroselenopyran adducts, 7389
study of intramol H–bonding in acylhydrazide peptide analogs, 2765
tellurium–125, of 1,5–ditelluracyclooctane and dication, 4537

Nucleic acids

cleavage by iron complex of bleomycin model with long side–chain, 6869

Nucleosides

(–)–(1′*R*,4′*R*)–dioxolane–thymine, anti–HIV–active, 3791
1*H*–pyrrolo[1,2–*e*]purines, 1,2,3–trihydroxy–2,3–dihydro–, synth as –analogues, 7503
1′aβ–hydroxy–1′a–carbacytidine, synth, 6281
2′–, 3′–bromo–2′,3′–dideoxyuridine derivs, synth, Pd–cat cross–couplings, 3391
2′–deoxy–2′–hydroxymethyl–β–D–*erythro*–oxetanosyl maleimide, oxetanocin–showdomycin analog synth, 2399
2′,3′–dideoxy–carba–adenosine, phosphonate analogs, 6341
2′,3′–dideoxycytidine, synth from crotonaldehyde, 5717
2′–alkynyl–2′–deoxy–1–β–D–*arabino*furanosyl uracil, cytidine, synth, 6003
2′–*O*–(1–pyrenylmethyl)uridine, synth, incorporation into oligonucleotide, binding properties with complementary sequence, 6347
2′–*O*–(5–aminopentyl)adenosine, synth, 7171
3′–azido–, 3′–fluoro–thymidine derivs, 1813
3′–deoxy–3′–(methoxycarbonylmethyl)– and –3′–(methoxy(thiocarbonyl)methyl)–thymidine, formation using Me_2BBr, 3469
3′–azido–2′,3′–dideoxyguanosine, synth, 5745
3′–fluoro–3′–deoxythymidine, synth from cyclothymidine, 2091
4–thiocyanatothymidine, synth and SCN–displacement, 2505
4–thiouridine, 2′–deoxy–4–thiouridine, protection by cyanoethyl group on S, NH_3aq for removal, 3033
5–hydroxymethyltetrahydrothien–3–yl nucleoside analogues, 247
5′–homo–, 3′–azido–2′,3′,5′–trideoxy–β–D–allofuranosyl–, 3′–azido–3′,5′–dideoxy–β–D–glucofuranosyl–thymines, synth, 3361
5′–*O*–phosphonomethyl–2′,3′–didehydro–2′,3′–dideox yuridine, synth, 1905
6,1′–propanouridine, spiro–bridged – fixed in *syn* conformation, 4549
6–thioguanosine, 2′–deoxy–6–thioguanosine, synth, Raney Ni desulfurization, 3919
8–allyl–7–(oxo–, thio–, seleno)–guanosines by rearr of 7–(chalcogenoallyl)guanosines, 4823
acyclic (sugar) analogs of thymidine, AZT, 1447
alkylation by dehydromonocrotaline, 927
anhydrothymidine, hydrofluorination in DME, Al–alkyl–promoted, 2091
anomeric assignment by nmr in 2–fluoro–2–deoxyarabinosides, 1287
C–nucleoside analogs, synth 3–(2–deoxyribofuranos–1–yl)–pyridin–2–one and –quinoline–2–one, 3297
C–nucleoside models, analogs, synth using tetrahydrofuran–1–yl radicals, 3377

carba–, from cyclopentene epoxide derivs, 611
carbocyclic analogs of ribose moiety by Mitsunobu type reactions, 7029
carbocyclic sugar analogs, 2′,2′–bishydroxymethylcyclopropyl adenine and uracil, 2141
deoxyadenosine adducts of polycyclic hydrocarbon epoxides, synth, 6073
dideoxy– analogs, 4–hydroxymethyltetrahydrofuran–2–yl purine, pyrimidine bases, 271
dideoxy– analogs, pyrrolidin–1–yl derivs of cytidine, uridine, thymidine, 3863
dinucleoside methylphosphonates, hexafluoroisopropoxy as leaving group from P, 7161
enol esters of nucleosides, synth, uses, 777
imidazole –, C4–linked 2–carbamoyl–2′–deoxy–β–D–ribofuranosyl–, synth, 6485
methylthiomethyl derivs on sugar residue, attachment, modification, removal, 7593
oxetane – with azido and fluoro substituents, 1675
oxetanocin A analogs, 2–des(hydroxymethyl)– and its α– and β–2–hydroxy– derivs, synth, 3531
pyrido[1,2–*a*]purine nucleotide, synth from imidazo[4,5–*d*]–1,2,3–triazinone riboside, 5693
pyrimidine, purine – with fluorine–containing acid–stable acyclic sugar moieties, 3823
ribofuranosyl–pyrazolo[3,2–*i*]purines, synth, 7415
sangivamycin, pyrimido–pyrrole riboside, methyl derivs and conformation, MM calcs, protein kinase inhibition, 7273
selenenylation of uridine deriv by ArSeCl/Ag(I), 2401
sulfonates and sulfones, ribonucleotide analogs, 1267
synth 4–thiothymidine, 4–thiouridine, 6–thio–2′–deoxyguanosine, 2817
synth from thioglycosides using *N*–iodosuccinimide/triflic acid, 3627
thymidine, deoxyadenosine, synth phenylalanyl derivs, 5357
thymidine, synth from 5–iodo–2′–deoxyuridine, 4397
thymine L–dideoxy–pentosides, fluoro–, azido–, didehydro–, 79
trans–2,3–di(hydroxymethyl)cyclobutane analogs, synth intermediate, 6997
water–soluble porphyrinylphenyl–uridines, 7511

Nucleotides

3′–*O*–anthraniloyl–8–azidoadenosine 5′–mono–, –di–, –tri–phosphate, 4699
7–methylguanosine–5′–triphosphate–nucleoside, cap portion of mRNA, Mn^{2+}–catalysed synth, 6905
adenine monophosphates, extraction by bicyclic guanidinium receptors, 1827
adenosine, 2′–*O*–(5–aminopentyl)–, synth, phosphorylation, incorporation into oligonucleotides, 7171
bifunctional oligodeoxy– with masked thiol groups at 3′–end, 3053
biotin–linked oligo–, reagent for synth, 1715
deoxyribo–oligo–, phosphite method of synth, 785
deoxytetra— $d(CGCG)_2$ cleavage by kapurimycin A3, mech, products, 7719
dinucleotide analogs, sulfonyloxy– and sulfonylmethyl–linked, 1267
guanosine diphosphate fucose, synth from thioglycoside by iodination–activation, 6175
H–phosphonate oligonucleotide synth on polyethylene glycol/polystyrene copolymer, 5477
hexadecyl (6–*O*–mannosyl) phosphate triesters of fluorouridine and arabinofuranosylcytidine, 6553
hydrolysis of oligo— by cyclic deca– and tetradeca–peptides, 5337
methane–, fluoromethane–, difluoromethane–diphosphonate, P^1,P^2–subst analogs of 2′–deoxyadenosine, 2′–deoxythymidine 5′–triphosphates, 6425
methylphosphonate oligonucleotides, synth using P(III) reagent, 4981
model nucleopeptide synth with serine and trinucleotide sequence, 4389
nucleoside–5′–phosphates, coupling to form P^1,P^2–dinucleoside–5′–pyrophosphates, 6065
oligo– analogues, solid–phase synth carbamate–connected morpholine derivs, 7385
oligo–, polystyrene support system for synth, 4059
oligo— containing phosphorothioate groupings, 7171
oligodeoxy– containing 4–thiothymidine residues, 3851
oligodeoxy– synth on PEG support using hydroxybenzotriazole phosphates, 3251
oligodeoxy–, octathymidylates with alternating phosphothionotriester and phosphodiester units, 2497
oligodeoxy— containing 2′–deoxy–L–ribose, 2573
oligodeoxyribo—, with alkylamino groups attached to internucleotide phosphorodiester groups, 3715
oligodeoxyribonucleotide synth using 3′–phosphorobisamidites, 4721
oligonucleotide synth, cpg with β–dithioethyloxy–groups as support, 967
phosphorothioate oligo— by phosphite sulfurization using thiuram disulfide, 3005
solid–phase synth using *o*–nitrophenylethyl–linked resin, 1511
synth oligodeoxy– containing abasic site, 207
teflon–supported synth 3′–oligonucleotide–peptide conjugate, 879
thiophosphate analogs of dinucleotide, intramol transesterification, 3723
thymidylic acid, synth by phosphite route with t–butyl ester protection, 395

Olefination

Julia –, rigidified arachidonic acid analogs *via*, 495

Olefins

1,2–(α,α′–dihydroxyalkyl)–, lithio–oxiran dimers, 615
α–(phenylthio)styrenes, synth by Friedel–Crafts alkenylation, 6563
addition of $I–CF_2PO(OEt)_2$, Pd(0)–catalysed, 1019
alkene dipeptide isosteres, Wittig–Still rearr in synth of, 5401
asymmetric dihydroxylation of by catalytic OsO_4/dihydro–quinine/quinidine with ferricyanide reoxidation, 3965
bromination using Bu_4NBr_3, acceleration by ultrasound, 4135
chlorotrifluoroethylene, addn to methyl α–phenylthioacrylate and PhS–elimination, 7265
electrophilic, 2,2–bis(trifluoromethyl)ethene–1,1–dicarbonitrile, reactions with nucleophilic olefins, 1871, reactions by hydride abstraction, 1875
electrophilic, amination and tandem aldol reactions using $Ti(NR_2)_4$, 2371

enantioselective catalytic hydoxylation by OsO_4/NMO/quinine copolymer, 5175
enantioselective epoxidation by PhIO, chiral (salen)Mn(III) catalysts, 1055
epoxidation by t–BuOOH, V_2O_5–catalysed, 3167
fluoro–, chain mech photo–addn to alcohols, 251
formation by $BF_3.Et_2O$ dehydration of tertiary alcohols, 6489
from 1,2–bis(arenesulfonylalkanes by $SmI_2/(Me_2N)_3PO$, 1949
hindered, electron–transfer oxidation, 117
hydroformylation–reduction, Ru–catalysed, 505
hydrogenation of, (μ–hydridodichromium decacarbonyl)$^-$ catalysis, 1199
isomerisation (Z) $\rightarrow$ (*E*), photochem radical–promoted, 537
olefin isomerization by HCl/BCl_3 in CH_2Cl_2, 1635
photocycloaddn to 1–phenylpenta–1,3–diyne, 6719
photocycloaddn to *N*–benzoylindole, mech, trapping of radical intermeds, 4107
propene, 3–chloro–3,3–difluoro–2–(trimethylsilylmethyl–, 1069
radical perfluoroalkyl–selenation of, 375
silyl—, from α–epoxysilanes with RLi, stereochem, 3457
stereosel synth (Z)–disubst – from ketones *via* α–thio– and –seleno–phosphates, 4385
stereosel synth trisubstituted – by Claisen rearr of allylic ester enolate, 2909
sterically hindered α–methylstyrene, unreactivity of, 871
stilbenes, by one–electron oxidation of phenyldiazomethane, 729
stilbenes, electron–transfer oxidation catalysed by triplet Ph_3pyrylium BF_4^-, 109
styrene synth by Suzuki reaction with Markovnikov vinylboranes, 2311
styrene, β–methylstyrene, reaction with $Pb(OAc)_4$, sonochemical switching of mechanism, 6379
styrenes, trimethylstyryl–, stereospecific synth, 43
synth from aldehydes and (α–silylalkyl)stannane anions, 3285
synth from β–hydroxysulfone xanthates, selenobenzoates, thionocarbonates, 2703
trans–dichlorination by permanganate–oxalyl chloride reagent, 1831
see also Alkenes

Oligomerisation
of acyl chlorides, $AlCl_3$–catalysed, pyrones and indane–1,3–diones, 2153
silylated allenyl alcohols, aldehydes from, 5713

Optical rotatory dispersion
see Circular dichroism

Organoleptics
gymnemasaponins, antisweet principles from *Gymnema sylvestre*, 789
jujubasaponins I–III, antisweet glycosides from *Zizyphus jujuba*, 7059
see also Flavors, Perfumes

Orthoesters
orthoformates, cyclic amidinium salts from, 5031
trimethyl orthoformate in TFA, formylation of Cu deuteroporphyrin di–Me ester, 3477
triphenyl orthothioformate, lithio–, addn to β–ethoxy–α–methylacrolein, 6329

Osmylation
asymmetric dihydroxylation of olefins, by catalytic OsO_4/dihydro–quinine/quinidine with ferricyanide reoxidation, 3965
catalytic enantiosel – of olefins using 9–*O*–arylated dihydroquinine and analogs, 5761
catalytic, of conjugated dienes, polyols from, 1003
cyclohexenetetrol, in synth inositol analog, 1671
dihydroxylation of $Fe(CO)_3$–complexed trienyne, 635
heterogeneous chiral –, catalytic OsO_4 complexed to quinine deriv, 5175
stereochem of in cyclobutenes, 2659
stereosel *cis*–hydroxylation of unsat spiro–acetals, 4049

Oxadiazines
5,6–dihydro–1,3,4—, glucal cycloadducts with azodicarboxylic ester, 5021

Oxadiazoles
1,3,4—, 2,5–bis(trifluoromethyl)–, cycloaddns of, 1885, 1889

Oxazines
3,6–dihydro–1,2—, fused, by intramol cycloaddn reactions, 4325
4*H*–1,2— *N*–oxide, 6–ethoxy–5,6–dihydro–, synth, cycloaddn to acrylonitrile, 2517
4*H*–5,6–dihydro–1,2— *N*–oxides, 3–alkenyl–6–alkoxy–, cycloadducts of 2–nitro–1,3–dienes with enol ethers, 5607
5–chloro–5,6–dihydro–6–(4–imidazolyl)–2–trichloro methyl–1,3—, in girolline synth, 1419
5–methylenetetrahydro–1,3–oxazin–2–one, fused, π–allylirontricarbonyl lactam complex from, 7119
dihydro–1,4–oxazin–3–ones, fused, synth, nmr, 711
morpholine–2–carboxylic ester, synth, Dieckmann cyclization 4–methoxycarbonylethyl deriv, 2281
oxazolo[2,3–*b*]oxazin–5–ones, 2,3–dihydro–7–methyl–, synth, hydrogenation, cuprate addn, 597

Oxaziridines
(+)–dichlorocamphorylsulfonyl—, asymm hydroxylation of 1–tetralone anion by, 7671
camphorsulfonyl–, asymmetric hydroxylation β–ketoester enolates by, 867

Oxazoles
4–alkenyl–, Wittig synth, *E*–selectivity, 1609
4,5–dicarboxylate esters, by rearr sugar lactone oxime vinyl ethers (DMAD adducts), 7269
4–carboethoxy–, from nitriles and α–diazo–α–formylacetic ester, 17
4–chloromethyl–, synth from amides and 1,3–dichloroacetone, 1609
5–alkoxy–2–aryl–, Lewis–acid catalysed cycloaddn of aldehydes, 2–oxazoline–4–carboxylic esters, 6911
synth C14–C25 – subunit of calyculin, 4859

Oxazolidines
(*S*)–4–benzyl–2–oxazolidinone as chiral auxiliary in (*S*)–dihydroxyphenylglycine synth, 2663
1–t–butyloxycarbonyl–2,2–dimethyl—4–carbaldehyde , serinal chiron in synth polyoxy–γ–aminoacid, 6977
2,2–dimethyl–4–propynoyl–, applications in Diels–Alder synth, 5721

3–methoxycarbonylmethyl–, azomethine ylids from, diastereosel cycloaddns to *N*–phenylmaleimide, 7531
4–vinyl–2–oxazolidinone synth by intramol Ag^+–catalysed addn of N–H group to *O*–(2,3–butadienyl) carbamates, 6359
(–)–4–isopropyl–2–oxazolidinone, chiral auxiliary in diastereoface differentiation in PhSH addn to αβ–unsat amides, 3519
5–allyl–4–(OMe, SPh)–2–oxazolidinones, replacement of OMe, SPh by alkyl, aryl cuprates, 3523
bridged –, formation in Bischler–Napieralski β–carboline synth, 1987
bridged and fused, in sponge alkaloids kimbasine A and B, 2347
chiral 4–(α–iodovinyl)–oxazolidin–2–ones, synth, 5713
chiral adducts of 2–oxazolones, synth, use, 7715
from β–hydroxyalkyl t–amine oxides, reaction with Grignards, sec–amines from, 1443
fused oxazolidine sugars from reductive decyanation, 1371
fused pyrrolidin–2–one deriv, asymm synth 2–pyrrolidinones using, 1379
N–aryloxazolidine–2,5–diones, condn with ester enolates, 3115
N–benzyloxycarbonyl–2,2–dimethyl–4–carbaldehyde, from serine, addn of CCl_3^-, 1031
N–BOC–2,2–dimethyl–4–aldehyde, in asymm synth phenylcyclopropylglycines, 541
oxazolidin–2–one, 3–chloroacetyl–isopropyl–, in chiral synth girolline, 4905
oxazolidones of camphor series, asymmetric alkylations of imide enolate, 4959, 5563
synth from α–BOC–amino–aldehyde and boron enolate, 2453

Oxazolines
(–)–allosamizoline, dihydroxy–hydroxymethylcyclopentano–fused 2–dimethylamino–2–oxazoline, stereocontrolled synth, 5123; enantiospecific synth, 5363
2–(2,3,4–trimethoxyphenyl)–4,4–dimethyl—, reaction with 3–pyridyllithium, 3871
2—4–carboxylic esters, by Lewis–acid catalysed cycloaddn of aldehydes to 5–alkoxy–2–aryloxazoles, 6911
2–aryl–4,4–dimethyl–4—, activation of *o*–OMe replacement using EtLi, 3213
2–oxazolin–5–ones, cycloaddn to 4–dimethylamino–1,3–diazabutadienes forming dihydropyrimidones, 5151
3,4,6–tri–*O*–acetyl–D–glucose— in solid–phase aminoglycosyl peptide synth, 1531
3–acryloyl–2–oxazolinone, in chiral catalysed diene reaction, 7517
5–(α–hydroxyalkyl)–2—, stereosel synth, 6367
asymm 2—, synth by Ag(I)–catalysed condensation of aldehydes with Me isocyanoacetate, 2799
bi–(2–oxazolin–2–yl)methanes, Cu(I) complexes of, and use in cyclopropanation with diazoalkanes, 7373
chiral 2—, [2,3–*b*]oxazine fusion by reaction with diketene, 597
Darzens–type reactions with 2–dichloromethyl–4,4–dimethyl–, 87
from isocyanoacetate in cuanzine synth, 4491
fused, intermed in synth of N–acyl 2–amino–2–deoxyglycosides, 1413
N–(azetidin–2–on–3–yl)–4,5–diphenyl–4–oxazolin–2–ones as protective group, ozonolysis to benzamido–, 3305
oligosaccharide –, β–glycosides and neoglycoproteins from, 4447
oxazolin–2–(cyanoimines), by cycloaddn of *C*–(cyanoimino)–azomethine ylids to carbonyl compounds, 5987

Oxepines
2,3,6,7–tetrahydro— deriv, synth from 5,8–diiodo–1,4–epoxycyclooctan–2–one, 2241
4,5–dihydro— formation, from 2,3–divinyloxiranes *via* carbonyl ylids 7637
4,5–dihydro–3–oxy–, enol ethers and esters, by Cope rearr divinyl epoxides, 157
quince –, isol of precursor to, 4487

Oxetanes
3–trimethylsilyloxy—, synth in regiosel Paterno–Büchi reactions, 7037
diketen, addn to chiral 2–oxazoline, oxazolo–oxazinones from, 597
nucleosides with azido and fluoro substituents, 1675

Oxidation
1,2–dihydro–1,2–dihydroxytoluene, – by MCPBA, $^1O_2$, OsO_4, 1671
α–keto–βγ–unsat esters by mCPBA – of fused 4–isoxazolines, 2779
alcohol to aldehyde in presence of oxidisable thioacetal unit, 4631
aldehydes and ketones to nitriles by Cu(II)–promoted ammonoxidation, 1007
allylic – of hexahydropentalene deriv to alcohol, 2135
allylic alcohol to rearranged enal by PCC on SiO_2, 6203
allylic, of αβ–enones by $VO(OR)Cl_2$, 1741
anodic – of dihalophenols to quinols, 4039
anodic – of quinol methyl allyl ethers, 7591
β–lactams to 4–acyloxy–β–lactams by $RuCl_3$–catalysed reaction with O_2/acetaldehyde/AcOH, 5991
Baeyer–Villiger – of α–methoxy–, α–(methyltosylamino)– cyclobutanones, 3827
benzylic –, photocatalytic, aromatic aldehydes and ketones by, 4291
bridged tetrahydrofuran to γ–lactone by $RuCl_3/NaIO_4$, 1329
by air of $1,2\lambda^5$–azaphosphorines, 2619
by Mo–peroxides in alcohols, of organo–Pd, 675
by per–acids, of phosphorodiamidothiolates, 4427
catalysts, octahalo–meso–tetraarylporphyrins, 1355
catalytic, by hydroperoxides, manganese cluster for alkanes, alkenes, 1153
deprotection *N*–(3,4–dimethoxybenzyl) β–sultams by DDQ, 751
DMSO–TFA oxidation cysteine– to cystine–containing peptides, 1223
electrochem, of alkylidenemalonates to dimethyl acetals of β–ketoalkyl malonic esters, 799
electrochemical, of malononitrile in presence of ketones, 2655
enolates to α–hydroxyketones by dimethyl dioxirane, 715
enolisable thioketones to sulfines by MCPBA, 747
enzymic – of quinoline, abs config of products, 2963
ferric picolinate–catalysed – cage hydrocarbon binor S to monoketone, 6263
iodosobenzene – of benzenesulfonanilides to quinonimine derivs, 2133
iron(II)–catalysed, in presence of $P(OMe)_3$, of alkanes to alkyl dimethyl phosphates, 4671
iron–catalysed – of alkyl benzenes – Gif–IV method, 2547
manganese dioxide – of retinal, 20–trifluororetinal, nor–retinal products, 1933
McKillop – 2,4,6–tri–t–butyliodobenzene to diacetoxyiodo(III) deriv, structure, 1327

N–anthraniloylglycine, Cu–catalysed α–hydroxylation, involvement of Cu(III), 3831
N–methylmorpholine oxide oxidation sulfides to sulfones, osmium tetroxide catalysis, 5043
of benzylic, allylic, silyl ethers to C=O by DDQ under UV irradiation, 3993
of lithio–polyoxynaphthalenes, perylenequinones by $FeCl_3$, then $K_3Fe(CN)_6$, oxidation, 859
of methyl group in 4–methylphenols, 4–alkoxymethyl–, 4–formyl compds, 2053
of serine, threonine residues in peptides by $Pb(OAc)_4$, 3163
one–electron – of phenyldiazomethane, 729
Oppenauer, using lanthanide alkoxides and 2–butanone, 2355
oxygen transfer from aromatic *N*–oxides to olefins, alcohols, sulfides, catalysed by RuO_2–tetramesitylporphyrin, 7435
p–hydroxy–Schiff base to quinone methide deriv in 7α–formamido cephalosporin synth, 2683
periodate glycol cleavage in 2,3,6,7–tetrahydrooxepin deriv synth, 2241
perruthenate – of 1,4–diols to butanolides, 3215
phenol to spiro–cyclohexadienone by hypervalent iodine, 2035
phenolic – by pig liver cytochrome P–450, (*R*)–reticuline to salutaridine, 3675
phenols to quinones by NO_2BF_4 in calixarene deriv, 1909
photoactivated – of catharanthine, CN–addn, C16–C21 cleavage, 3035
radical – with Fe reagents, kinetic isotope effects and mechanism, 3811
reoxidation by ferricyanide in catalytic OsO_4 hydroxylation of olefins in presence of dihydroquinine/dihydroquinidine, 3965
selectivity in H abstraction from subst toluenes by oxometalloporphyrins (metal = Fe, Cr, Mn), 3759
side–chain – of 15–ketosterols by TFA/H_2O_2, 3923
singlet oxygen, of 2–acyl–α–tetralones, 1471
sonochemical perruthenate – of steroidal homoallylic alcohols to enediones, 3201
sulfide to sulfoxide, α–fluoro–, by peroxy–compds, 1463
sulfides to sulfones, by catalytic OsO_4 and t–amine oxides, 7353
sulfides to sulfoxides by iodosobenzene, catalysed by $PhSeO_2H$, 793
Swern, chlorite, and ozone, in conversion of tetrahydrofuran–2–one to –5–one, 3381
tetralin to α–tetralol and –one derivs by $K_2S_2O_8/CuSO_4$, 2083
see also Autoxidation

N–Oxides
1–pyrroline –, addn of dialkyl phosphites, phosphonyl nitroxides, 2125
4–nitroquinoline–1–oxide, reaction with cytosine derivs, 5233
allylic amine oxides, [2,3]–sigmatropic rearr to *O*–allylic hydroxylamines, 4481
β–hydroxyalkyl t–amine –, lithiation, oxazolidines from, 1443
furo[2,3–*c*]pyridine *N*–oxides, furfuraldoxime in Diels–Alder reactions, 3199
heteroaromatic –, O–transfer catalysed by RuO_2–tetramesitylporphyrin, 7435
see also Nitrile oxides, Nitrones

Oximes
1–aza–4–oxabicyclo[3.3.1]nonan–6–one –, cleavage with reduction, 2281
α–alkoxycycloalkanone – acetates, Beckmann fragmentation, reductive variant, 5367
α–arylidenecycloalkanone –, photocyclization to cycloalkeno–fused quinolines, 5235
α–hydroxy– *O*–benzyl ethers, borane reduction, 711
αβ–unsat oxime ether, intramol cycloaddn to ynone in fused pyridine synth, 7643
allyl ethers, nitrones and fused isoxazolidines by tandem [2,3]–sigmatropic shifts and cycloaddns, 279
benzald—, oxidative addn to benzo[*b*]thiophene by hypochlorite, 3699
by reduction of nitroalkenes by $Zn(BH_4)_2$ in DME, 3579
furfuraldoxime in Diels–Alder reactions; furo[2,3–*c*]pyridine *N*–oxide synths, 3199
O–benzylformaldoxime, reductive coupling to C=O using SmI_2 in HMPA, 3555
O–methyl ethers, pinacol–type cross–coupling with ketones, 525
radical cyclizations of ε–aryltelluro–aldoximes, 4713
reduction to amines by SmI_2/base, 3511
reductive acylation using Et_3SiH/ROCOCl to *N*–alkyloxycarbonylhydroxylamines, 4137
steroidal –, rearr with triflic anhydride to cyclized *N*–triflylenamine, 5071
sugar lactone oxime vinyl ethers (DMAD adducts), rearr to oxazole derivs, 7269

Oxiranes
(*E*)–2–acyl–, 2–(α–hydroxyalkyl)–3–trimethylsilyl—, chiral synth, 5789
(*Z*)–3–acyl—2–carboxamides (+)–cerulenin, (+)–tetrahydrocerulenin, stereosel synth from D–tartaric acid, 6771
1–(2–oxiranyl)silacyclobutanes, base–induced rearr to silacyclopentanes, 4545
1–trimethylsilyl–1–α–hydroxyalkyl–, azidolysis, 679
2,2–dialkyl–3–iodomethyl–, from t–allylic alcohols using $PhI(OAc)_2/I_2/h\nu$, 7493
2,3–dialkoxy–, by epoxidation of enediol ethers, 1295
2–acetyl–3–β–TMS–vinyl–, TMS–enol ether and esters, Cope rearr to oxepins, 157
2–lithio–2–triphenylsilyl–, alkylation and deoxygenation by trialkylalanes, 2783
2–vinyl–1–oxaspirohexanes, Pd–catalysed ring expansion to 2–ethylidenecyclopentanones, 3395
lithio–, generation, addn to C=O, dimerization, 615
methyl trifluoromethyl oxirane, epoxidation of tri–*O*–benzylglucal by, 7215
nitro–, formation by oxidative addn of hydroxide ion to nitroalkenes, 2285
optically active alkyl–, β–hydroxyalkyl phenyl sulfides from, 4317
reaction with β–trimethylsilylalkyl sulfones, 1073
ring expansion of vinyl spiro—, tin–, thiyl–radical mediated, 6575
ring–opening by cyanides catalysed by metal salts, 4775
spiro— derived from macrolide FK506, 7039
spiroadamantane–1,2–, by electron–transfer oxidation of olefin, 117
trans–1–cyano–2–(1–hydroxyhexyl)–, asymmetric synthesis, 2045
trans–2,3–divinyl—, synth, carbonyl ylids from, 4,5–dihydrooxepins, 2,5–divinyl–dihydrofurans, 7637

Oxocarbons and anions
matrix–isolated heptacarbon dioxide, 4469
squaric acid, cycloserine deriv, 3767
squaric acid, dimethyl ester, reaction with vinyllithium, 1129

Oxygenation
allyl compounds by $^1O_2$, discussion of mech, reaction with allylic–SnR_3 compds, 1745

Cu–catalysed α–hydroxylation of *N*–anthraniloylglycine, 3831
photo–, $^1O_2$ of 2–alkenyl–2–oxazolines, *cis*–effect in ene–reaction, 1957
RuO_4 oxidation of 2,3–epoxynorbornanes, effect of polar substituents, 1169
singlet – in synth 2–ene–1,4–diol from 1,3–diene, 2241
singlet – of 1,1,2,2–tetraarylcyclopropanes, 3,3,5,5–tetraaryl–1,2–dioxolanes, 7695
singlet – of t–butyldimethylsilyl cyclohepta–3,5–dienyl ether, 2597
singlet –, 3–methoxypyrrole–2–carboxylic esters, 2,5–, 2,3–addn, 2,3–epoxidation, 7571
singlet –, hindered olefin to per-epoxide, phosphite deoxygenation to epoxide, 863
singlet – of αβ–unsat esters, solvent effects on site selectivity, 7321
singlet, dye–sensitised photo— of phenylallenes, 1859
singlet, of 1,2–dihydro–1,2–dihydroxytoluene, 1671
singlet, of 2–acyl–α–tetralones, 1471
singlet, of furan deriv to 5–hydroxy–2–furanone, 2269

Oxygen heterocycles

1,4–benzodioxin, lithiation, 1–(1–hydroxyalkyl) derivs, orthoester Claisen and Eschenmoser rearrangements with, 5525
1,3–benzodioxoles, from catechols using $BrCH_2Cl/Cs_2CO_3$ in DMF, 2461
2,4–benzodioxepins, 1,5–dihydro–, synth using sulfonylated charcoal as catalyst, 413
2,7–dioxabicyclo[3.2.1]octane analog of thromboxane A2, 4599
2*H*,4*H*–1,3–benzodioxins, by photocyclization *o*–isopropoxy–benzophenone, 895
2*H*–pyrano[3,2–*b*]oxepin, 6–(buta–1,3–dienyl)–3,4,4a,6,9,9a–hexahydro–, AB fragment of gambiertoxin 4B, 4505
3,3–dichlorophthalide, reaction with arylamines, synth *N*–arylphthalisoimides, 2633
8–mercaptodibenzofuran–1–ol in thiol capture synthesis of polypeptides, 2845
α–(diethyl phosphonates) of 6–alkyl 2,2–dimethyl–1,3–dioxin–4–ones, 2581
by radical cyclization α–phenylthio–α–alkenyloxy–acetic esters, 1491
cyclization of cycloalkenols to tetrahydropyrans, oxepanes, oxocanes *via* episulfonium ions, 2261
dibenzofuran–4,6–dipropionic acid, 6–(β–aminoethyl)—4–propionic acid, for polypeptide β–sheet nucleation, 5725
dibenz[*c*,*h*]xanthen–7–one, 12–hydroxy–2–mercaptomethyl–, synth, thiol capture strategy for peptide synth using, 3009
furo[2,3–*b*]furan, 2,3,3a,6a–tetrahydro–, 2–(1–methylcyclohexyl)–, synth clerodin fragment, 5957
indeno[1,2–*b*]pyran–5(4*H*)–ones, 2–(t–amino)–4–aryl–, by cycloaddn of ynamines to 2–arylideneindane–1,3–diones, 4051
naphtho[1,8–*bc*]pyrans, reduced, by intramol Diels–Alder reaction, 1183
perhydro–furano[2,3–*b*]pyran–2–ones, by γ–lactone annulation to enol ethers, 1011
perhydro–pyrano[2,3–*b*]oxepin derivs, 2245
perhydro–pyrano[3,2–*b*]pyrans, –oxepino[3,2–*b*]oxepins, 6.7.7 and 6.7.7.6 systems by cyclization of stannyl ether aldehydes, 7069
phenanthro[6,7–*b*]pyrans, 5,6–dihydro–10,10–dimethyl–, cedrelins A and B, paralycolin A structure revised, 2793
see also the individual ring systems

Ozonides

4,5–diphenyloxazolin–2–one β–lactam derivs, –, Chapman rearr and hydrolysis, 3305
β–pinene, chiral dienophile from, 2005
cyclohexenes, in synth trisubst pyrroles, 1765
fused α–ethylidene–β–lactams, oxazolidine–2,5–diones from, 2065
ozonation of diphosphiranes, 3687

Palladium and compds

alkyl–Pd(II) species in formation of fused small rings from bromo–, alkoxy–dienes, 3855
carbopalladation of allenes in steroid synth, 915
catalysts of Pd(0) for hydroxyprenylation with isoprene 3,4–epoxide and 3,4–dihydroxyisopentenyl carbonate, 2193
catalytic olefination of bromo–cyclophanes, 2367
diacetate, in arylation of allyl alcohols to styryl alcohols and to β–arylethyl aldehydes and ketones, 2121
diacetate, bis–dibenzylideneacetone, water–soluble Pd(0) catalyst from by reaction with sulfonated PPh_3, 2025
organo–Pd, alkoxylation by Mo peroxides in alcohols, 675
pallada–cyclopentadiene tetracarboxylic ester, catalyst in enyne metathesis, 3647
square tetrameric complexes with 4,4′–bipyridine, and complexation with organics in aqueous soln, 5589
tandem olefin insertions into C–Pd bond from silyl enolate, 5911
tropones and π–allyl–Pd compds from 7–methylenebicyclo[4.1.0]heptan–3–ones, 4089
[1,4–bis(diphenylphosphine)butane]Pd(II) dichloride, catalyst for arylboronic acid coupling to 2–chloro–azines, 2273
see also Catalysis, Catalysts

Penams

2–exomethylene –, synth, and sulfoxide, sulfone, and 2β–alkylthiomethyl derivs, 7445
iodomethyl–, Co–promoted rearr and elim to methylenecephams and cephems, 7093

Peptides and Polypeptides

atrial natriuretic factor, synth portion 7–23 with polymethylene substitution of tetra–residue sequences, 7735
bis–crown ether–containing polypeptides, synth and cooperative complexation Cs^+, 331
C–terminal dipeptide of vancomycin, synth, 2663
carboxamide protection by trityl group, synth involving, 739
cleavage from solid support by gaseous ammonia, 6163
containing C–terminal α,α–dialkyl aminoacids, 3407
crystal conformation of *N*–formyl tripeptide ester, 4375
cyclic deca– and tetradeca–peptides, synth, hydrolysis of oligonucleotides by, 5337
cyclic decapeptide, synth on solid support, suspended from glutamic acid side–chain, 7679
cyclic hexapeptide analogs of somatostatin, synth, 4675
cyclo–, (L–Pro–L–Leu)$_2$ (L–Pro–L–Val)$_2$, (L–Pro–L–Phe)$_2$, isol, pmr, cmr, synth, 2609
cystine–containing – by DMSO–TFA oxidation, 1223
deca– LH–RH synth using Adpoc for aminoacid N–protection, 345
difluoromethylene ketone retroamide peptide analogs, potential thrombin inhibitors, 7255
dipeptide isosteres, Ψ[(*E*)CH=CH]Gly, reductive elimination by alkenylcoppers of δ–amino–γ–oxy–αβ–unsat esters, 4969
dipeptides from aminoacid enol esters, 5359

dolastatin 10, sea hare pentapeptide, synth, 931
enopeptin A, B, depsi— antibiotics from *Streptomyces* sp., struct, nmr, 7707
glucagon, mammalian, convergent solid–phase synth, 577
glycosyl attachment *via* thioacetamido–link, 6793
hydroxyethylene dipeptide isosteres for P1′ subsite, Leu–Pro analog, 5857
hydroxyethylene, *erythro*–dihydroxyethylene dipeptide isosteres, synth, 6507
imidazoline substitution of a peptide link in, 2277
malformins B_{1a}, B_{1b}, B_2, cyclic penta— from *Aspergillus niger*, 6715
N–amino–peptides and peptidomimetic hydrazides, 2765
N–anthraniloylglycine, Cu–catalysed α–hydroxylation, 3831
N–methylpeptides, coupling using tris(dialkylamino)bromophosphonium PF_6^-, 1967
nazumamide A, thrombin–inhibitory sponge tetrapeptide, 7073
olefinic dipeptide isosteres, Wittig–Still rearr in synth of, 5401
ornithine pseudodipeptide, 8–amino–3–oxoindolizidine as model, 1089
penta–, dolastatin 10, synth, 2395
pentafluorophenyl diphenylphosphinate, – coupling reagent, 6711
peptide amides, anchor link for solid–phase synth, 3891
peptidyl–prolyl *cis–trans* isomerization analog, 1375
peptidylphosphonic acid derivs as thrombin inhibitors, synth, 7333
phosphonomethylphenylalanine, incorporation into polypeptides as phosphotyrosyl analogs, 6061
phosphorylated tyosine pentapeptide synth, 4033
polypeptide β–sheet nucleators, dibenzofuran–4,6–dipropionic acid, 6–(β–aminoethyl)—4–propionic acid, 5725
polypeptide GCN4, 4′–(3–propylthio)–2,2′:6′,2″–terpyridine deriv, 3325
pseudopeptides with CH(CN)NH links, modified Strecker synth, 7579
pseudopeptides with CSNH links, synth, 7617
retrosulfonamido peptide analogues, synth, crystal struct t–BuOCO–Pro–NH–CH(iBu)–$NHSO_2CH_2CONH_2$, 6779
serine, threonine residues modified by $Pb(OAc)_4$ oxidn, 3163
solid–phase synth of – containing phosphorylated serine and tyrosine, 5389
solid–phase synth using *N*–Fmoc–*O*–trityl hydroxy–aminoacids, 471
solid–phase synth using *o*–nitrophenylethyl–linked resin, 1511
solid–phase synthesis using allylic anchoring groups, 4207
solid–phase synthesis, tris(alkoxy)benzyl ester as hypersensitive acid–labile anchor, 1015
solution synthesis using benzotriazolyloxy trispyrrolidino phosphonium hexafluoroborate as coupling agent, 6387
sulfinamide– and sulfonamide–containing peptides, transition–state analogues, 409
synth by acyl activation using Ph_2Se_2/Bu_3P, 255
synth cyclic peptides cont aspartic acid on solid support, 2639
synth using protease carbohydrate conjugate, 6827
synth using protected aminoacid fluorides, 1303
synth using *Staphylococcus aureus* V8 protease, 3421
teflon–supported synth 3′–oligonucleotide–peptide conjugate, 879
thiol capture strategy using 5–hydroxy–4–mercapto–9,9–dimethylxanthene, 12–hydroxy–2–mercaptomethyldibenz[*c*,*h*]xanthen–7 –one, and 7–hydroxy–2–mercaptomethyl–1,2–dihydrobenzofuran, acyl transfer rates, 3009
thiol capture synthesis, histidine problem solved, 2845
thymopentin, pentapeptide synth, 327
tripeptide with CH_2SO_2 replacing one NHCO, renin inhibitor isosteres, 5263
valyl–tryptophan Me ester, 2–hydroxy–1–naphthaldehyde Schiff base, Ti(IV) complex chiral catalyst, 4333

Peracids

oxidation enolisable thioketones to sulfines by MCPBA, 747

Perfumes

see Flavours and fragrances

Peroxides

(+)–yingzhaosu A, antimalarial sesquiterpene peroxide, synth, 5785
1,4–diphenyl–2–cyclopentene–1,4–endo—, reaction with chiral ketones, 1,2,4–trioxanes and 1,3–dioxolanes, 7243
2–acyl–α–tetralone–2–hydroperoxides, 1471
α–arylazobornyl hydroperoxide, steric effect on decomposition to dioxygen and camphor arylhydrazone, 4955
α–hydroperoxy–diethyl peroxide, from tunicate, 4355; identity proposed as α–ethoxyethyl hydroperoxide, and origin questioned, 7303
alkyl hydro—, intermeds in oxidation of alkanes to alkyl dimethyl phosphates, 4671
benzoyl –, asymmetric benzoyloxylation of β–diketone lithio–enamines, 5899
bistrimethylsilyl– and metal halides for synth of 1–halo–, 1–pseudohalo–1–alkynes, 2169
epoxidation by t–BuOOH/$Mo(CO)_6$ of 4–hydroxycyclohexene deriv, stereocontrol in, 1707
epoxidation of olefins by t–BuOOH, V_2O_5–catalysed, 3167
evidence for perepoxide intermediate in singlet oxygen reaction with αβ–unsat esters, 7321
from reaction of $^1O_2$ with allylic–SnR_3 compds, 1745
hydroperoxides, manganese cluster for catalytic oxidation, 1153
N–(hydroperoxyalkyl)phthalimides, photochem cleavage by intramol energy transfer, 2949
peroxyacid acetoxylation of β–lactams, OsO_3–catalysed, 2145
plakortolide, peroxidic lactone from sponge, 7167
triethylsilyl hydrotrioxide, dioxetanes from enol ethers and 1,2,4–trioxanes therefrom, 4235

Pharmacologically active compds

(+)–diltiazem, vasodilator, Ca channel blocker, enantiosel synth, 3519
(+)–yingzhaosu A, antimalarial sesquiterpene peroxide, synth, 5785
anti–HIV–active (–)–(1′*R*,4′*R*)–dioxolane–thymine, 3791
antibacterials, quinolones containing 3,6–diazabicyclo[3.2.0]heptane system, 1565
antineoplactic, dolastatin 10 synth, 2395
avermectin–nemadectin synthetic hybrid, 3663
baclofen, antispastic agent, synth both enantiomers, 4249
calcium antagonists, di(acyloxymethyl) 1,4–dihydropyridine–3,5–carboxylates, enantiosel enzymic hydrolysis, 5805
carcinostatic, discorhabdin C, sponge alkaloid, synthetic approach, 2035
cardiotonic potentiators, musclide–A1, –A2, –B, 1733
cyclic hexapeptide analogs of somatostatin, synth, 4675
hupocholesterolemic, breynins A, B, pmr, cmr, revised structure for breynin B, 6847

hypocholesterolemic, mevinic acid synth, (+)–dihydrocompactin, (+)–compactin, 4651
mevinic acid analogs, HMG–CoA reductase inhibitors, monocyclic compactin analog, 3911
NMDA receptor antagonists, tetrahydropyrimidinealkylphosphonic acid derivs, 7659
platelet activating factor antagonists, 2–(3–pyridyl)–thiazolidin–4–ones, 379
potassium channel activators, antihypertensives, (–)–chromakalim and (–)–(1–methyl–6–oxopyridazin–3–yloxy)– analog, 5055
renin inhibitor, 10–membered lactone–lactam, low activity, 7655
superoxide generation inhibitor, OPC–15161, pyrazinylmethyl–indole deriv, synth, 6019
thrombin inhibitors, synth peptidylphosphonic acid derivs, 7333

Phase transfer
alkylation of tosylmethyl isocyanide, 5539
allylic arsonium salts with aldehydes forming vinyl oxiranes, 3999
catalytic (Co, Ni) reductive hydroxycarbonylation of *gem*–dibromocyclopropanes, PEG–400 in toluene/5N KOH, 3349
cyclopentadiene alkylations, SET mechanism, 5773
enantiosel hydrolysis of DL–*p*–nitrophenyl *N*–dodecanoyl phenylalanate by tripeptide in hybrid micellar assemblies, temperature and composition effects, 6597
hydrocarboxylation of alkynes to alkanoic acids, Co(II)/Ni(II)/KCN–catalysed, 1769
in Wittig reaction using 2–hydroxyethyl triphenylphosphonium ion, 627
isopropylidene tosyloxymalonate, base–induced sulfinate elimination, sulfone formation, 2937
reverse phase microemulsion formation of vinylphosphonium salts and betaines, 2615
solid–liquid, ketene acetals by base elimination from bromoacetaldehyde acetals, 1539
synth of coumarin–3–phosphonate esters, 3–(diphenylphosphinoyl)coumarins in CH_2Cl_2/H_2O without ptc, 5341
two–phase asymmetric dihydroxylation of olefins by OsO_4/dihydroquinine/$K_3Fe(CN)_6$, 3965

Phenalenes
hexahydro– derivs in pseudopterin aglycone synth, 2087

Phenols
1,4,5–naphthalenetriols, differentially protected, 6735
4,5,6–trichloroguaiacol, $FeFe(CN)_6$ oxidation, 543
4–methyl–, catalytic oxidation (acetone oxime/$CuCl_2/O_2$) to 4–alkoxymethyl–, 4–formyl–, 2053
4–t–butyl–2,6–di(hydroxymethyl)–, dehydration to tetraoxacalix[4]arene, 1879
5–chloro–2,4,6–trimethylresorcinol, synth, 4465
9,10–dihydrophenanthrene–2,7–diol, juncusol synth, 1279
alk–4–enyl—, electrochem oxidation with cyclization, spiro[5.5]undeca–2,4–dien–1–ones, spiro[[4.5]deca–7,9–dien–6–ones, 4973
allyl– , metalation, dimethoxyborylation and oxidation to hydroxycinnamyl alcohols, 2475
arenes, phenol, phenyl ethers, and aminoacid derivs, synth by Diels–Alder cycloaddns, 5721
bis(dihydroxyphenyl)imidazolylmethane, catalysis of ester hydrolysis by, 4757
catechol, oxidation by methyl trifluoromethyl dioxirane, *o*–quinone formation, 5441; (Z,Z)–muconic acid formation, 5445
catechols, methylenation to 1,3–benzodioxoles using $BrCH_2Cl/Cs_2CO_3$ in DMF, 2461
coniferyl alcohol – bovine serum albumin conjugate, synth, use, 5255
coupling to diazonium salts accelerated by complexation to cyclodextrins, 5231
cyano–naphthols, synth from benzenoid precursors, 4133
deoxygenation by potassium *via* phosphonate ester in calix[4]arenes, 1909
deprotection of TBDMS ethers by potassium fluoride on alumina using ultrasound, 7207
dihydric –, halogen–Li exchange forming *C,O,O*– trilithio derivs, 7313
electro–induced $S_{RN}1$ by 2,6–di–t–butyl phenoxide, 4–arylsulfonyl 4′–hydroxy–biphenyls, 6705
o–iodo—, synth chromenes by Heck reactions, 7739
oxidation by dimethyldioxirane, *o*–quinone formation, 5441
oxidation to quinones by NO_2BF_4 in calixarene deriv, 1909
phenolic 1,2–dihydro–2–arylbenzocyclobuten–1–ols, 263
resorcinol mono–Me ethers by oxidation of 1,3–cyclohexanediones by I_2/MeOH; olivetol, DB–2073 synth, 3441
synth fluoro–subst biphenylols in $S_{RN}1$ reactions, 3487

Pheromones
(±)–*exo*–brevicomin, synth using reductive Beckmann oxime acetate fragmentation, 5367
(±)–ipsenol, monoterpenoid aggregation –, synth, 6749
(+)–*exo*–brevicomin, synth by enzymic route, 4835
(+)–monomorine I, indolizidine ant –, synth from (*S*)–pyroglutamic acid, 3365
(–)–(3*S*,4*S*)–4–methyl–3–heptanol, aggregation – of *Scolytus multistriatus* beetle, synth, 5159
(–)–*endo*–1,3–dimethyl–2,9–dioxabicyclo[3.3.1]nonane, *Trypodendron lineatum* beetle – synth, 2223
(2*E*,4*E*,6*S*,10*S*)–4,6,10–trimethyl–2,4–dodecadien–7 –one, from female scale insect *Matsucoccus feytaudi*, synth, stereochem natural material, 5995
(*E,E*)–suspensolide, BF_3–catalysed rearr to anastrephin and epianastrephin, stereochem, 5303
beetle *Callosobruchus analis* female –, (*Z*)–3–methyl–2–heptenoic acid, 129
disparlure, chiral synth from 2–deoxy–D–ribose, 363
moth –, (5*RS*–9*S*)–5,9–dimethylheptadecane and –pentadecane, synth, 2643
muscalure, and (*E*)– and (*Z*)–heneicos–6–en–11–ones, – of moth *Orgyia pseudotsugata*, 3059
sitophilure, synth from acylketene acetals by diastereoselective addns, 461

Phosphaalkenes
cations, generation of $(Et_2N)_2C{=}P{-}P^+{-}NR_2$ and its isomerizn to $(Et_2N)_2C^+{-}P{=}P{-}NR_2$, P–31 nmr, 2775
ultrasound in Mg dechlorination of $ArPCl_2$ to diaryl diphosphene, and CCl_2 addn to this, 5965

Phosphaallenes
1–aryl–4,4–diphenyl–1–phosphabutatriene, CCl_2 addn to, 6879

Phosphates
alkyl dibenzyl –, synth from dibenzyl phosphoramidates, 3145
D–ribulose 5–phosphate, enzyme–catalysed aldol reactions with, 3159
diethyl 2–fluoro–2–hexenyl –, Pd–catalysed conversion into ethyl 3–fluoro–3–heptenoate, 2735
see Phosphoric acid and derivs

Phosphazenes
N–(*o*–formylphenyl)–, from *o*–azidobenzaldehyde and Ph_3P, indazolinones from, 2521, corrigendum, 4056

spiro–P(V)–, hydrolysis, N– and P–nmr, 501

Phosphines, phosphine oxides
1,1–bis(diphenylphosphino)ethenes, 3631
1,1′–binaphthyl–2,2′–bis(dicyclohexylphosphine) dioxide, and 5,5′,6,6′,7,7′,8,8′–octahydro deriv, synth, resolution, 7283
1–diphenylphosphinoyl–1–(ω–iodoalkyl)–allenes, radical cyclizations, 3659
2,2′–bis(dicyclohexylphosphino)–6,6′–dimethylbip henyl Rh(I) norbornadiene, catalyst for asymm hydrogenation, 4745
2,2′–bisdiphenylphosphino–1,1′–binaphthyl, chiral Ru ligand for asymm hydrogenation, 3101
25–phospha–analogs of vitamin D_3, dimethylphosphine oxides, 4643
3–(diphenylphosphinoyl)coumarins, synth, 5341
5–(diphenylphosphinoylalkyl) 2–isoxazolines, synth homoallylic amines *via*, 4171
alkyl diphenyl – oxides and sulfides, synth, 2493
β–hydroxyalkyl diphenyl phosphines, kinetic resolution by rabbit gastric lipase, 5959
chiral phosphine oxides, synth by alkylation of opt active phosphinite anions, 3375
menthyloxy–phosphine–borane adducts, one–electron reduction, stereochem, 3371, 3375
methanebis(diphenylphosphine) disulfide, anion condn with aldehydes, 3631
one–electron reduction of $RR'P(OR'').BH_3$, 3371, and of $RR'PO(OR'')$, 3375
phenyl–bis(triphenylmethylthio)–phosphine, generation of PhP=S from, 7009
radical chain mech for dediazoniation of arenediazonium salts by Ph_3P, 5601
stereochem of one–electron reduction of menthyloxy–phosphine–borane adducts, 3371
tributyl–, cond aldehydes with bromoacetate using, $Pd(PPh_3)_4$–catalysed, 513
tributyl–, with Ph_2Se_2 as carboxy–activator in peptide synth, 255
triphenyl–, α–hydroperoxy–β–diketone deoxygenation by, 1471
triphenyl–, addn to electrophilic alkynes in microemulsion, 2615
triphenyl–, photoreduction 10–methylacridinium ion by in $MeOH/H_2O$, 1047
vinylphosphine *P*–oxides, radical addn to, asymmetric induction in, 3265

Phosphinimines
2,*o*–bis(triphenylphosphoranylidenamino)cinnamic acids, reactions with isocyanates and ketenes, 5379
allylic –, with ketenes by rearr to homoallylic nitriles, 4041
triphenylphosphinimine, *N*–lithio–, synthetic applic, 347
N–(6–uracil) deriv, condn with pyridine and isocyanate to 6*H*–pyrido[1,2–*f*]pyrimido[4,5–*d*]pyrimidine–1,3(2 *H*,4*H*)–diones, 4473
N–vinyl—, reaction with 6–dimethylamino–2–formylfulvene, 5–azaazulene synth, 6727
from PPh_3 and 2′–diazidobenzylidene aniline, Staudinger reaction and cyclization, 2979

Phosphinic acids and derivs
8–hydroxyquinoline chlorophosphinic esters, dissociation of Cl, 75
N,*N*–diisopropyl *O*–(*p*–nitrophenyl) methylphosphonamidite, synth, phosphonate oligonucleotides using, 4981
N–(dialkylphosphinoyl)hydroxylamines, synth, rearr of *O*–*p*–nitrobenzenesulfonates, 4769
pentafluorophenyl diphenylphosphinate, peptide coupling reagent, 6711
sugar diphenylphosphinimidate esters for glycosidation, 1653

Phosphirenes
1*H*—, 2,3–bis(t–butyldimethylsilyl)– and dihydro–deriv, synth, 6537
2,3–dimethylenephosphirenes, by CCl_2 addn to 1–aryl–4,4–diphenyl–1–phosphabutatriene, 6879

Phosphites
see Phosphorous acid and derivs

Phospholanes
1,2,5–triphenyl— 1–oxide, (*E*,*E*)– and (*E*,*Z*)–, synth, resolution of latter, reduction to (–)–(*E*,*Z*)–1,2,5–triphenylphospholane, 5089

Phospholipids
ether –, enantiospecific synth 1–*O*–octadecyl–2–alkylaminodeoxyglycerophosphocholines, 6521, synth 1–*O*–(3′–carboxypropyl)–glycero–3–phosphoserine, 6525
GPI anchor of *Trypanosoma brucei*, synth, 671
N–palmitoyl–D–*erythro*–sphingomyelin, synth, 5291
phosphonate analogs of *myo*–inositol phospholipids, 955
vesicle formation with amphiphilic cyclodextrins, 2769

Phosphonic acids and derivs
25–phospha–analogs of vitamin D_3, dimethyl phosphonates, 4643
3–oxobutyl— ester, 2–bromo–, dicarboxyhydrazino–, hydroxy–, from 2,2,2–triethoxy–5–methyl–1,2λ⁵–oxaphosphol–4–ene with electrophiles, 5313
4–*N*–phosphonomethyl 2,4–diaminobutyric acid and derivs, synth enzyme inhibitors, 2711
5–phosphonate analogs of inositol–1,4,5–trisphosphate, synth, 6021
5′–phosphonic acid analogs of 2′,3′–dideoxy–carba–nucleotides, 6341
6–phosphonoalkyl tetrahydropyrimidine–4–carboxylic acids, synth as NMDA receptor antagonists, 7659
α,α–difluoroalkylphosphonates, $I–CF_2PO(OEt)_2$ addn to olefins, 1019
α–(diethyl phosphonates) of 6–alkyl 2,2–dimethyl–1,3–dioxin–4–ones, 2581
α–diethylphosphoryl piperidine–, pyrrolidine–1–oxyls, 3841
α–methylenephosphonic esters, synth *via* vinylsulfoximines, 3119
α–phosphonyl pyrrolidine nitroxides, synth, esr, 2125
β–(diethoxyphosphoryl)propionic acid, lithiation, synth βγ–unsat amides from, 6231
chiral cyclic alkyl – diamides, synth by alkylation of 1,3,2–diazaphospholidine 2–oxides at P, 6297
coumarin–3— esters, synth, 5341
diazophosphonate esters, Rh–catalysed insertion into H–O bonds, 6947
diethyl diazomethanephosphonate, for aldehyde to ethynyl group conversion, 2343
diethyl tosyloxymethylphosphonate, in synth nucleotide analogs, 1905

dimethyl 1,3–diselenane–2–phosphonate, dimethyl 1,3–diselenane–2–phosphonate, 4189
fluoromethylphosphonate cyclic ester analog of *myo*–inositol 1,2–cyclic phosphate, 2207
inosityl glyceryl H–phosphonate in phospholipid synth, 101
iododifluoromethylphosphonate ester, Pd(0)–catalysed addn to olefins, 1019
methane–, fluoromethane–, difluoromethane–diphosphonate, synth
P^1,P^2–subst analogs of deoxynucleoside 5′–triphosphates, 6425
N–phenyl–bis(diethylphosphonato)ketenimine, synth, reactions, 4279
peptidylphosphonic acid derivs as thrombin inhibitors, synth, 7333
phosphonate analogs of *myo*–inositol phospholipids, 955
phosphonic acid analog of shikimic acid, synth, 4111
phosphonomethylphenylalanine, incorporation into polypeptides as phosphotyrosyl analogs, 6061
phosphorylglycine esters, synth of β–C–ribofuranosyl glycines using, 2113
sugar – from fructopyranose spiro–epoxides, 1237
tetraethyl methanediphosphonate, Knoevenagel condensation with, 4111

Phosphonium salts
α–(perfluoroacyl)alkyl–triphenyl—, sodium amalgam reduction, 4953
benzotriazolyloxy trispyrrolidino –hexafluoroborate, coupling agent for rapid peptide solution synth, 6387
epimerization of 2–methylthiophosphonio–1,3–dithiane, mechanistic study, 7329
tributyl–oxazol–4–ylmethyl–, in stereosel Wittig synth, 1609
triphenyl(vinyl)phosphonium salts, betaines, synth in microemulsion, 2615
tris(dialkylamino)bromophosphonium PF_6^-, in *N*–methylpeptide coupling, 1967

Phosphonylation
methylphosphonic esters, hexafluoroisopropoxy as leaving group, 7161
5–phosphonate analogs of inositol–1,4,5–trisphosphate, synth, 6021
polymer–bound tyrosine–containing pentapeptide, *–via* phosphite–triester, 4033

Phosphoramidates
N–acyl–, rearr to phosphoryl imidates, 137
N–benzoyl–*O,O*–dialkyl–*N*–phenyl—, solvolysis, *N*→*O* acyl migration, 4193
O,N–dialkyl phosphonamidates, by rearr and solvent addn of dialkylphosphinoyl hydroxylamines, 4769
phosphorodiamidothiolates, oxidation with rearr by peracid to bisdialkylaminophosphinyloxysulfonates, mech, 4427
primary amine dibenzyl–, nitrosative conversion into alkyl dibenzyl phosphates, 3145

Phosphoramidites
biotin–attached, for reporter–group marked oligonucleotide synth, 1715
deoxyribonucleoside 3′–phosphorobisamidites, in oligodeoxyribonucleotide synth, 4721

Phosphoranes
alkylidene—, reaction with benzopentathiepin, 6345
perfluoroacylation and reduction, perfluoroalkyl enolate generation, 4953
spirocyclic hydrido–, with two CN_2P rings, 763

Phosphoric acid and derivs
amino–acid based phosphodiester–bridged macrocyclic cryptand, 7723
benzyl dialkyl esters, photolysis mechanisms, 7013
diphenylphosphoryl azide in Curtius rearr of pulegenic acid, 6851
hydroxybenzotriazole phosphates, oligodeoxy–synth on PEG support using, 3251
inositol phosphates, affinity probe for ins(1,3,4,5)P_4 receptors, 1623
myo–inositol hexaphosphate (phytic acid), tethered by 2–*O*–(*–aminoalkyl) groups, 1863

Phosphorothioic acids
di–*S*–phenyl hydroxy–α–aminoacid dithiophosphates, 1347

Phosphorous acid and derivs
chiral cyclic phosphorous diamides, 1,3,2–diazaphospholidine 2–oxides, 6297
4–ethyl–2,6,7–trioxa–1–phosphabicyclo[2.2.2]octane, ligand for carbonylation catalyst in β–lactam synth, 7683
deoxygenation of perepoxide from hindered olefin, 863
hexafluoroisopropyl phosphite–, in oligoribonucleotide synth, 785
inosityl glyceryl phosphite in phospholipid synth, 101
radical chain mech for phosphite dediazoniation of arenediazonium salts, 5601
triethyl phosphite, deoxygenation benzoyloxy radicals by, 311
trimethyl phosphite, reaction with alkyl hydroperoxides, 4671

Phosphorus compds
phenyl thioxophosphane, PhP=S, generation, trapping, 7009

Phosphorus halogen compds
cationic species from PCl_3 and 8–hydroxyquinolines, 75
diethyl phosphochloridite, reaction with Li enolate, 2581
p–chlorobenzyloxy–dichlorophosphine, for phosphitylation of serine–based macrocycle, 7723
phosphorus trichloride for selective halodehydroxylation of aminosugar derivs, 3977
reduction of P(V)–Cl compounds to P–H by SmI_2, stereochem, 2493
tri–t–butylphenyldichlorophosphine, sonication in Mg dehalogenation to diaryl diphosphene, 5965
trichloride, reaction with 2–aminoazolium salts, isol of azolylideneamino–dichlorophosphines, 6433
trichloride, tribromide, for conversion 4–chromanones into 4–halochromenes, 827
tris(dialkylamino)bromophosphonium PF_6^-, in *N*–methylpeptide coupling, 1967

Phosphorus heterocycles
1,2,4,3–triazaphospholes, 1,3,2–benzodiazaphospholes, spiro–P(V)– derivs, hydrolysis, N– and P–nmr, 501
1,2λ^5–azaphosphorines, synth, oxidation, hydrolysis, 2619
1,2λ^5–oxaphosphol–4–ene, 2,2,2–triethoxy–5–methyl–, reactions with electrophiles, 5313
1,3,2–oxazaphosphorinane, axial preference for NMe_2 at P, 899, corrigendum, 3900
2–oxo–1,3,2–diazaphospholidine, 2–alkyl–1,3–dimethyl–, ethoxycarbonylation, Horner–Wittig reaction using, 1317
diphosphiranes, 1,2–diaryl–3,3–dihalo–, synth; 1,2,3–triaryl–3–chloro–, *P*–dearylation with halogenation; using ultrasound, 5965

diphosphiranes, cheletropic reactions on oxidation and carbene treatment, 3687
thiazolo[3,2-*d*][1,4,2]diazaphosphole-3-carboxylic acid, 5,6-dihydro-, Me ester, synth, nmr, 6433

Phosphorylation
2-chloro-2-oxo-1,3,2-dioxaphospholane, – by in sphingomyelin synth, 5291
enolates, *C*— using $(EtO)_2PCl$, then H_2O_2, 2581
inositols, using phosphoramidite method, 1863
oligodeoxynucleotide synth on PEG support using hydroxybenzotriazole phosphates, 3251
p-nitrobenzyl phosphoromorpholidate, for – of methanediphosphonic acid mono-esters, 6425
D-*myo*-inositol, 1,4-bisphosphate, 1,4,5-trisphosphate, 6167
synth of peptides containing phosphorylated serine and tyrosine, 5389

Photochemistry
triplet state of triphenylpyrylium BF_4 in electron transfer oxidation of stilbenes, 109
10-20-membered cyclic ketones in zeolites, Norrish types I/II reactions, 7675
α-iodo-epoxides, synth from allylic tert-alcohols using $PhI(OAc)_2/I_2/h\nu$, 7493
allyl *N*-hydroxypyridine-2-thione carbonate, radical generation, 45, 49
anthracene in water, O_2-free amd oxygenated, 5737
β-trimethylstannyl ketones, photo-cleavage, 4003
benzyl dialkyl phosphates, photolysis mechanisms, 7013
benzylic, allylic, silyl ethers, oxidation to C=O by DDQ under UV irradiation, 3993
cleavage of *N*-(hydroperoxyalkyl)phthalimides, by intramol energy transfer, 2949
Co-mediated cyclization epoxy-olefins to homoallylic alcohols, 243
cobaloxime-catalysed coupling of bromo-compounds to styrene, 6273
cyclization 2-(2-alkynyl)acetophenones to indenes and derivs, 31
cyclization 2-(3-pyridyl)styrenes, 3871
cyclization 2′-ethyldeoxybenzoins, stereochemistry of 2-hydroxyindanes from, 165
cyclization *N*-propargyl β-ketoamide, 3051
cyclization of *o*-trimethylammonio- and *o*-dibenzylammoniobenzophenone, triplet mech, 3915
cyclizations forming [5]helicenes, bromine auxiliaries in, 6831
cycloaddn of olefins to 1-phenylpenta-1,3-diyne, 6719
cyclodimerization of vinyl groups, cyclophane synth by, 2367
deprotection *o*-nitrobenzylated anomeric OH in abasic oligodeoxynucleotide synth, 207
di(methoxyphenyl) methylphosphonate, photolysis, dimethoxybiphenyls, dimethoxydibenzodioxins, 6899
dimethylaminoalkyl cyclohexenones, photocyclization reactions, 7151
dye-sensitised photo-oxygenation of phenylallenes, 1859
flash photolysis of benzoyltrimethylsilane, trapping of phenyl-trimethylsilyloxy-carbene by pyridine, 4443
o-isopropoxy-benzophenone, intramol H transfers, 895
oxa-di-π-methane rearr of bicyclo[2.2.2]oct-2-en-5-one deriv, 4011
oxidation of catharanthine, CN-addn, C16-C21 cleavage, 3035
photo-de(oxytrifluorobenzoylation) in sugar series, 5745
photo-detosylation of sulfonamide with anionic sensitisation, 1425
photo-Fries rearr of benzenesulfonanilide in cyclodextrin, *ortho* selectivity, 2975
photo-induced SET reaction of allylstannane with αβ-epoxyketones, 2029
photo-induced vinylcyclopropane-cyclopentene rearr, 1107
photo-oxygenation of 3-phenyl-1,1,2,2-tetramesityl-1,2-disilet-3-ene , 6605
photo-oxygenation, $^1O_2$ with 2-alkenyl-2-oxazolines, *cis*-effect in ene-reaction, 1957
photo-rearr of *o*-quinone monoacetals to cyclopent-2-en-4-onecarboxylates, 4553
photocatalysed decomp of 1,2-diols by a water-soluble Fe(III) porphyrin, 4007
photocyclization of α-arylidenecycloalkanone oximes to cycloalkeno-fused quinolines, 5235
photocyclization of β-anilinoacrylic ester deriv to indoline, 6129
photocycloaddn of *N*-benzoylindole to olefins, mech, trapping of radical intermeds, 4107
photocycloaddn of olefins to 4-hydroxyquinolin-2-ones, 2,3-dihydrofuro[3,2-*c*]quinolin-4(5*H*)-ones, 5115
photodehalogenation of tetrachloronaphthalenes, mechanism, kinetics, 5705
photofragmentation of 2-morpholino-1,2-diphenylethanol by Rose Bengal and derivs, no role of oxygen in, 7507
photolysis 6-(1,2,3-triazol-1-yl)uracils, pyrrolo-, indolo- and isoquinolino- pyrimidines from, 323
photolysis of *N*-(2,4,6-trinitrophenyl)aminoacids, 5823
photolysis products from tetra-t-butyl cyclopropen-3-yldiazomethane, 57
photorearr 9,9-dimethoxy-4-silyloxy-tricyclo[5.2.2.$0^{1,5}$]undec-10-en-8-one, 6583
photorearr of *N*-carbomethoxynorcodeinone, chirally stable dibenzo[*d,f*]azonine, 7499
photoreduction 10-methylacridinium ion by Ph_3P in $MeOH/H_2O$, 1047
photostimulated $S_{RN}1$ in coupling phenols to bromobenzenes with fluorine substits (*p*-F, $-CF_3$, $-OCF_3$), 3487
radical chain mech addn alcohols to fluoro-olefins, quantum yields, 251
radical cyclizations of aryl alkenyl tellurides, 4713
rearr 2-methoxycarbonyl-2-azabicyclo[3.1.0]hex-3-ene to methyl penta-2,4-dien-1-ylidenecarbamate isomers, and 1-methoxycarbonyl-1,2-dihydropyridine, 6895
reduction of ketones by amines; strained ring-opening nearby, 1315
stilbene photocyclization in synth naphtho-xanthone system, 5195
sugar lactone oxime vinyl ethers (DMAD adducts), photorearr to oxazole derivs, 7269
two-photon laser photochemistry of 2,3-diazabicyclo[2.2.1]heptenes, 2211
Wolff rearr of 2-diazo-4-methylcyclopentane-1,3-dione, 3051
[2+2]-olefin cycloaddns, metathesis and rearrangements in cyclobutadiene-quinone adducts, 6403
[2+2]-photocyclization, forming oxo-oxa[5.5.5.4]fenestranes and analogs, 2105

Photophysics
fluorescent photoinduced electron transfer in anthracene derivs, 421, 425

Phytoalexins
azadirachtin, oxidative cleavage and degradation to decalin deriv, 6183

brassinolide, stereosel synth of side–chain, 6745
brassinolide, synth of side–chain attached to 3,5–cyclosteroid skeleton, 4817
clerodin, insect antifeedant, synth part structure, 5953, 5957
gloeosporone, chiral synth intermediate, 537
homogynolide–A, antifeedant sesquiterpenoid lactone, stereosel synth, 767
isovelleral, formn from stearoylvelutinal in fungus *Lactarius vellereus*, 2541
malformins B_{1a}, B_{1b}, B_2, cyclic penta— from *Aspergillus niger*, 6715
raphanusanins, structure reassignment as pyrrolidinethiones, 6753; cryst structure raphanusanin B, 6757; raphanusamide, also a pyrrolidinethione, 6761

Phytotoxins
see Toxins

Pigments
3,4–didehydro–β,β–caroten–2–one and other carotenoids from stick insect eggs, 5651
discorhabdin C, sponge – related to pyrrolo[4,3,2–*de*][1,7]phenanthroline alkaloids, synth, 4151
mould –, phleichrome, calphostins A and D, stereosel synth, 859
radermachol, red – from *Radermachera xylocarpa*, synth, 5283
see also Anthocyanidins, Dyes

Piperidines
(+)–pinidine, piperidine alkaloid, synth, 5029
(*S*)–pipecolinic acid, synth verruculotoxin from, 1417
1–(3–hydroxypropyl)–, photocyclization by SET to perhydro–pyrido–oxazines, 5147
1–deoxynojirimycin, selective 2–hydroxy functionalization, 5691
1–methoxycarbonyl– and 1,2–dimethoxycarbonyl—, anodic oxidation to α–methoxy–derivs, 6723
2–aminomethylpiperidines, synth from pipecolic acid enantiomers, 7183
2–spiro–cyclohexane, synth perhydrohistrionicotoxin analog, 2485
3,4–di–*O*–cyclopentylidene–3,4,5–trihydroxy—1–oxyl, synth, esr, 4129
α–diethylphosphoryl piperidine–1–oxyls, 3841
bridged optically active —2,6–dicarboxylic ester, synth, cryst struct, 483
by Mitsunobu cyclization 1,5–amino–alcohols, 161
enantiosel enzymic acylation of 2– and 3–hydroxymethyl—, 4197
synth (–)–solenopsin B, – alkaloid from fire ant, 4159
synthesis of lower half of FK–506, 1251
unusual substitution of 2–chloro–7–nitroquinoxaline by, 1311

Piperidinones
2,5–dioxopiperidine–3–carboxylates, 6–aralkyl–, for incorporation into peptides, 3563
2–alkyl–3–methoxycarbonyl–4—, synth by cuprate addn to 5,6–dihydro–4–oxopyridine–1,3–dicarboxylic esters, 3643
3–methoxy–4–methylthiopiperidine–2–thiones, synth incorrect raphanusanin structures, 6753
4–piperidinone, synth (±)–2–piperazinecarboxylic acid from, 2469
cathodic deacetylation of *N*–acetyl–4–piperidones, 3873
fused –, *cis*–octahydropyridin–4–ones by imino–Diels–Alder reaction, 491
spiro–bis–alkylation δ–valerolactam enolate, 1577
synth 2,6–dialkyl—4–ones *via* 1–carboxyalkylated 4–methoxypyridine, 5697, 5889

Platinum and compds
square tetrameric complexes with 4,4′–bipyridine, and complexation with organics in aqueous soln, 5589

Polycyclic alicyclic compds
(0)– and (1)–bridged perhydro–polyacenes, spacer molecules, 1885
1*S*,5*R*,8*R*,9*R*,11*S*–8–formyl–10–azatricyclo[6.3.1.$0^{1,5}$]dodecane–9,11–dicarboxylic acid, dimethyl ester, 483
3–acetoxytricyclo[6.3.1.$0^{3,8}$]undec–9–en–2–one, 1–acetoxytricyclo[3.3.1.$1^{2,6}$]dec–3–en–9–one, 6–acetoxytricyclo[4.3.1.$1^{2,7}$]undec–8–en–10–one and related structures, 4439
angular triquinane deriv, by silyl–assisted Nazarov cyclization, 2135
cyclopenteno–, benzo–[*f*]indene–4–carboxylic esters, octahydro–, synth by Pd–catalysed tandem carbonylation and intramol cycloaddn, 7687
from carbocyclic (6,4,5) systems by rearr, 3069
hexacyclo[9.5.2.2.$0^{2,10}$.$0^{4,8}$.$0^{12,16}$]eicosa–6, 13,17,19–tetraene–5,15–dione and –6,14,17,19–tetraene–5,13–dione, synth *via* Cope rearrangements, 6351
oxygen–bridged perhydro–polyacenes, spacer molecules, 1889
pentacyclo[10.2.1.$0^{2,11}$.$0^{4,9}$.$0^{5,8}$]pentadeca–6,13 –diene–3,10–dione, stereoisomers and related species in pentaprismane area, 6399
phenanthrenes, decahydro–, by reductive alkylation of aromatic ketones, 1929
reduced pentaleno[1,6a–*a*]indenedione, pentaleno[1,6a–*a*]pentanenedione systems, 2109
tetra(bicyclo[2.2.2]octeno)–fused cyclooctatetraene, 6767
tetracyclo[7.6.0.$0^{1,12}$.$0^{3,8}$]pentadeca–3(8),9–diene–2,11–dione, 9–methoxytetracyclo[6.6.0.$0^{1,5}$.$0^{9,13}$]tetradec–7–ene–6,14–dione, 2109
tricyclic ene–triesters, and bicyclic diene–triesters, in Pd–catalysed enyne metatheses, 3647
tricyclo[3.2.1.$0^{2,7}$]octane framework, synth, bicyclo[3.2.1]octanes from, 6741
tricyclo[4.1.0.$0^{2,7}$]heptane, reactions with dihalocarbenes and bromine, 4461
tricyclo[4.3.1.$0^{3,7}$]decane–4–carboxylate, 1,6–dimethyl–2–α–naphthyl–8–oxo–, and derived compds, isotwistanones, synth by radical cyclization, 6609
tricyclo[5.2.1.$0^{2,6}$]deca–4,8–dien–3–one 4,5–epoxides, reduction by LDA, organometallic addn and Payne rearr, 3127
tricyclo[5.2.2.$0^{1,5}$]undec–10–en–8–one, 9,9–dimethoxy–4–silyloxy–, synth, photorearr, 6583
tricyclo[9.3.1.$0^{3,8}$]pentadecane derivatives related to taxane, control of oxidation at C–1, 6679
tricyclo[9.3.1.$0^{4,9}$]pentadecene skeleton (taxane), synth by intramol Diels–Alder and Wittig rearr, 2629
triquinanes, linear and angular, from intramol cycloadduct pent–4–enylcyclohexadienone, 6583
see also Adamantanes, Cage molecules, Cubanes

Polycyclic aromatic compds
1*H*–cyclopropa[*b*]naphthalene, insertion of benzyne, dichlorocarbene, TCNE, PTAD, 7097
9,10–dihydrophenanthrene–2,7–diol, juncusol synth, 1279

acenaphth[1,2–*a*]acenaphthylene, synth, cycloaddns, 7241
circumanthracene, phenanthro[3,4,5,6–*bcdef*]ovalene, synth, uv, 5227
cyclotriveratrylene, triply bridged with pyridine–attached moieties, 7261
dibenzo[*jk*;*uv*]dinaphtho[2,1,8,7–*defg*;2′,1′,8′,7′–*opqr*]pentacene, 1,10–dimethyl–, MM2 calc, chiral conformation, endoperoxide, 5227
dicyclopenta[*ef*,*kl*]heptalene, addn of carbanions to internal carbons, 735
gymnopusin, 2,3,4,7,9–penta–oxy–phenanthrene, synth, 4879
phenanthrenes from biphenyl 2,2′–dicarbaldehyde bis–tosylhydrazones, 3025
[5]helicenes (dibenzo[*c*,*g*]phenanthrenes), bromine as protecting and directing group in synth, 6831

Polycyclic heterocyclic compds

1,10–phenanthroline, 2,9–connected through *p*–phenylene groups to Au(III) and Zn(II) porphyrins, 197
1,2,3,3a,7,7a–hexahydropyrrolo[2,3–*b*]indole, 1–methyl–3a–(3–methyl–2–butenyl)–, one–step synth from N_b–methyltryptamine, 7641
1,2,3,4–tetrahydro–β–carboline synth, *en route* to alkaloids, 3895
1–azatricyclo[4.3.0.0^{2,9}]nona–4,7–diene–2–carboxy late, 7,8–benzo–fused, by azide cyclization to diene, 1409
1*H*–cyclobuta[*cd*][1]benzothiophene 3,3–dioxide, 3a,4,5,6,6a,6b–hexahydro–6b–methyl–, 1351
1*H*–pyrrolo[1,2–*e*]purines, 1,2,3–trihydroxy–2,3–dihydro–, synth as nucleoside analogues, 7503
2,2′:6′,2″–terpyridine, synth from 2–acetylpyridine, 1999
2,3–dihydrofuro[3,2–*c*]quinolin–4(5*H*)–ones, photocycloaddn of olefins to 4–hydroxyquinolin–2–ones, 5115
3*H*–naphtho[1,8–*bc*]thiophene 1,1–dioxide, 4,6,7,8,8a,8b–hexahydro–, 1351
4*H*–pyrrolo[1,2–*a*]indole, 3–cyano–1,2–dimethyl–, synth, 7237
5,8–etheno–phthalazines (barreleno–pyridazines), by 3,6–bistrifluoromethyl–1,2,4,5–tetrazine cycloaddn to cyclooctatetraene, 5949
6*H*–pyrido[1,2–*f*]pyrimido[4,5–*d*]pyrimidine–1,3(2*H*,4*H*)–diones, 6–(subst imino)–2,4–dimethyl–, 4473
aza–heterocycles from condensation of cyclopentadiene with formaldehyde and aromatic amines, 7099, 7103
azireno[1,2–*b*][1,2]benzisothiazole 3,3–dioxide, 1,3a,7a,7b–tetrahydro–, 1299
β–carboline, subst 1,2,3,4–tetrahydro–, synth 19–hydroxytubotaiwine from, 1787
benzothieno[2,3–*c*]indole, 6,6a–dihydro–6–hydroxy–6–methyl–, x–ray, 4359
benzo[1,2–*h*:5,4–*h*′]diquinoline–2,4,10,12–tetrone , 3,3,11,11–tetrabutyl–7,14–dihydro–, complexing of with ureas, formamides, 4185
benzo[*g*]benzo[5,6]cyclohepta[1,2,3–*cd*]benzofuran dione deriv, radermachol, red plant pigment, 5283
benzo[*g*]cinnoline–5,10–dione, 1–aryl–1,4–dihydro–4–(tetraacetoxybutyl)–, 2513
benz[*cd*]indol–2(1*H*)–one, 2a,3,4,5–tetrahydro–, fusion of amino–oxazolone, attachment of bridgehead diethoxymethyl group, 5927
carbazole, *N*–(2–phenylstyryl)–, 1617
carbazole–3–carboxylic ester, 1–cyano–2,4–dimethyl–, synth, 7237
dibenzofuran–4,6–dipropionic acid, 6–(β–aminoethyl)—4–propionic acid, for polypeptide β–sheet formation, 5725
dibenzoselenophene, 5,5–diphenyl–Se(IV)–, 3179
dibenzo[*a*,*j*]perylene–8,16–dione and 7–ethyl deriv, synth, 3845
dibenzo[*b*,*f*][1,5]diazocine, arylamine 6,12–bridged adduct, 2521, corrigendum, 4056
dicyclopenta[*b*,*g*]naphtho[1,2,3–*ij*]quinolizine ring system, simple synth, 7099
dihydroimidazo–, tetrahydropyrimido– [*b*]–fused 4–hydroxy–1,2,4–benzothiadiazine 1,1–dioxides, 2935
furo[2,3–*b*]phenazin–2(5*H*)–one, 9–carboxy–5–geranyl–2–phenyl–, 943
furo[2,3–*f*]quinoline–2–carbaldehyde dimethylhydrazones, 1307
fused perhydro–pyrrolo[3,4–*c*]pyrrole–1,3–diones, by 1,3–dipolar cycloaddn and radical cyclization, 1359
ginkgolide analogs without t–butyl group, synth, 4623
hexahydropyrrolo[2,3–*f*]isoquinoline, synth, 6481
imidazo[4,5–*c*]quinolin–4–ones, synth 1,5–dialkyl derivs by Pd–catalysed cyclization, 6915
indazolo[2′,3′:1,5][1,2,4]triazolo[4,3–*a*][1,3,5] benzotriazepines, 2979
indeno[1,2,3–*ij*]isoquinoline, 1,2,3,7,8–pentamethoxy– (imeluteine), synth, 5277
indeno[1,2–*b*]indole synth by fvp of quinoline deriv, 801
indoloquinolizidines, intermed in (–)–antirhine synth, 4483
indoloquinolizidines, synth of cuanzine, 4491
indolo[2,3–*a*]quinolizidinone synth using branched deoxy–sugar lactones, 4303
indolo[2,3–*a*]quinolizines, 1,2,6,7,12,12b–hexahydro–, enantiosel synth, 3981
isoindolo[2,1–*a*]–indoles, –indol–6–one, 5–methylindeno[2,1–*b*]indol–6(5*H*)–one, 6,7–dihydro–5*H*–indolo[2,1–*a*][2]benzazepines, 3317
N–aryl–β–carbolinium alkaloids from sponge, 1843
naphtho[2,1–*b*]furan, 1–methyl–, by SmI_2–induced cyclization 1–bromonaphth–2–yl propargyl ether, 1737
naphtho[2,1–*f*]isoquinoline, 1,2,3,4–tetrahydro–8,12–dihydroxy–9,11–dimethoxy–2–methyl–, litebamine, 4169
oxo–oxa[5.5.5.4]fenestranes and analogs, 2105
phenanthridines, thioether analogs of ethidium bromide, 5019
pyrano[3,2–*e*]indole, 1–(2–dimethylaminoethyl)–3,7,8,9–tetrahydro–, synth as serotonin analog, 3345
pyrazolo[5,1–*a*]isoquinolin–6(5*H*)–one deriv by intramol cycloaddn of an alkenynyl diazoketone, 4103
pyrido[2,3,4–*de*]quinazolines, benzo[*de*][1,6]naphthyridines, from 2,*o*–bis(triphenylphosphoranylidenamino)cinnamic acids with isocyanates and ketenes, 5379
pyrido[3,4–*c*]carbazoles, reduced, by cycloaddn to tetrahydropyridyl–indole deriv, 1771
pyrido[4,3–*b*]–, –[4,3–*c*]–carbazoles, tetrahydro–, synth, 7449
pyrimido[1′,6′;1,2]imidazo[5,4–*b*]quinolin–1–one, 6–amino–2–subst–, rearr of 2–ribosyl deriv, 5233
pyrimido[4,5–*c*]isoquinoline–1,3–diones, pyrimido[4,5–*b*]indole–2,4–dione, fused uracils, 323
pyrrolidinyl–tetrahydro–β–carboline, synth, 4875
pyrrolo[2,1–*a*]isoquinolines, 1,2,3,5,6,10b–hexahydro–, asymm synth, 5501
pyrrolo[3,2–*e*]– and pyrrolo[2,3–*f*]–indoles, synth and polymers from, 5035
pyrrolo[3,2–*g*]quinoline–5–spiro–cyclohexa–2′,5′–dien–4′–one deriv, precursor to discorhabdin C, 2035

pyrrolo[4,3,2-*de*][1,7]phenanthrolin-6-one, spiro-cyclohexadienone system, 4151
tetrahydro-β-carbolines, stereospecificity of Pictet-Spengler reaction forming, 175
thiazolo-acridones, nat product synthetic intermeds, 39
thiazolo[5,4-*a*]acridines, 11-chloro-, 11-amino-, -11(6*H*)-ones, synth, nmr, 6709
thiopyrano[3,2-*h*:5,6-*h'*]diquinoline-2,4,7,10,12-pentone, 3,3,11,11-tetrabutyl-, complexing of with ureas, formamides, 4185

Polyenes
dienes and trienes from quince, precursors to fragrance constituents, 4487, 5943
viridenomycin, 24-membered polyene lactam-lactone, 659

Polyenols
polyprenyl alcohols (glycinophenols), enzymic synth from diphosphates, 241

Polyethers
ethylene glycol hexa-ether bi-nitroxide, effect of thiourea on conformation and ESR, 2021
tetraethylene glycol with BH_4^- and KOH for chlorocarbon dehalogenation, 2727

Polyketides
lydicamycin, pyrrolidine-tetramic acid antibiotic from *Streptomyces lydicus*, 213
polypropionate frameworks, synth using thian-4-one aldol reactions, 5369
syzygiol, from *Syzygium polycephaloides*, 211

Polymerisation
N-(methacryloyl)-aminosugars, by ammonium persulfate, 6823
N-undec-10-enyl lactobionamide, by γ-rays, 1191
N-[(trishydroxymethyl)methyl] acrylamide, surfactant for cell-wall protein extraction, 1437

Polymer support
polyethylenecarboxylic acid, synth of Rh(II) salt as cyclopropanation catalyst, 2731
aminoglycosylated serine peptides, 1531
anchor to polystyrene for neutral oligonucleotide analogues with carbamate connections, 7835
anchored pyridoxal deriv, racemization of aminoacids by, 7401
atrial natriuretic factor, synth portion 7-23 with polymethylene substitution of tetra-residue sequences, 7735
cleavage of peptides from support by gaseous ammonia, 6163
cyclic decapeptide, synth on -, 7679
glycopeptides on multiple column synthesiser, 5067
H-phosphonate oligonucleotide synth on polyethylene glycol/polystyrene copolymer, 5477
o-nitrophenylethyl-linked, for synth of oligonucleotides, 1511, and of peptides, 1515
oligodeoxynucleotide synth containing abasic site, 207
oligodeoxynucleotide synth containing 2'-deoxy-L-ribose, 2573
oligodeoxyribonucleotide synth by new phosphite method, 785
oligonucleotide synth, cpg with β-dithioethyloxy-groups as support, 967
peptide synth containing crown ether residues, 331
peptide synth, convergent strategy for mammalian glucagon, 577
peptide synth, imidazole protection in, 471, 475
peptide synth, trityl protection of carboxamide residues, 739
peptide synthesis, tris(alkoxy)benzyl ester as hypersensitive acid-labile anchor, 1015
phosphorylated tyosine pentapeptide synth, 4033
polystyrene - for model nucleopeptide synth, 4389
polystyrene support for oligonucleotide synth, advantages over CPG systems, 4069
safety-catch acid-labile amide anchor link, benzhydrylamine-derived, for peptide amides, 3891
solid-phase synthesis of peptides using allylic anchoring groups, Pd-catalysed cleavage, 4207
stereoselective ketone reductions by poly-dibenzo-18-crown-6-formaldehyde borohydride complex, 2157
synth 5'-3'-bifunctional oligodeoxyribonucleotides with masked 3'-thiol groups, 3053
synth cyclic peptides cont aspartic acid, 2639
synth glycopeptides using N^{α}-Fmoc-N^{β}-glycosylasparagine, 3445
synth of peptides containing phosphorylated serine and tyrosine, 5389
synth peptides containing *O*-phosphoserine, 7083
teflon-supported synth 3'-oligonucleotide-peptide conjugate, 879

Polymers
micelle formation by *N*-undec-10-enyl lactobionamide and its polymer, 1191
poly(1,4-phenylenevinylene), poly(2,5-pyrimidinylidenevinylene) with alkoxy substits, 5059

Polyols
1,2,3,4-tetrols from 1,3-dienes by catalytic osmylation, 1003
1,2,3,9-tetrahydroxyquinolizidine, homologue of castanospermine, synth, 4889
1,3,5,7,9,13,n-heptaol, oscillariolide, nmr, 2391
1,3,5,7-tetrol synth in FK-506 fragment, 547
2,6-dimethylheptane-1,3,4,7-tetrol deriv, synth from methyl α-D-mannopyranoside, 6015
polyhydroxy-pyrrolizidines, stereosel synths, 5513, 5517
threitol derivs, chiral templates in Diels-Alder reactions, 7043
see also Carbohydrates, Cyclitols, Inositols

Porphyrins
bis-ansa strapped -, myoglobin models, CO complexation and nmr shifts, 2129
bisporphyrin system containing Au(III) and Zn(II), 197
chiral wall tetra-2-(1,1'-binaphthyl)-Rh-I as cyclopropanation catalyst, 2445
copper deuteroporphyrin di-Me ester, formylation at posns 3, 8 by trimethyl orthoformate in TFA, 3477
corallistin A, free - from coral, synth, 4231
dioxo-tetramesitylporphyrinato-ruthenium(VI), catalyst for O-transfer from heteroaromatic *N*-oxides, 7435
divinyl-, cycloaddns to forming bacteriochlorin chromophore, 2875
haematoporphyrin, radicals in photochemical interaction with hendec-10-enoic acid, 5167
halogenated iron(III) porphyrin on silica, catalysis of sulfide oxidation by PhIO, 1467
halogenation of Ni- complexes by phenylselenyl halides, 5015
meso-tetraaryl-octahalo-, as oxidation catalysts, 1355
meso-tetrakis(pentafluorophenyl)-, and octabromo and metallo-derivs, nucleophilic substn of *p*-fluorines in, 2893
meso-tetrakis-[2,6-bis(benzyloxy)phenyl]-, other subst *ms*-tetraphenyl derivs, synth, spectra, 1703
mono- and di-*meso*-subst with terpyridine chelating units, bi-Ru-bis complex, 5977

mono– and tetrakis–[*o*–(tetraacetoxyglycosyloxy)]–*meso*–tetraphenyl—, Mn(III), Fe(III) complexes, enantiosel catalysis of epoxidation of *p*–chlorostyrene by PhIO, 4901
oxometallo— (metal = Fe, Cr, Mn), selectivity in H abstraction from subst toluenes, 3759
petro–, synth chlorophyll c fossils, serpiano–, 2537
pyropheophorbide A, water–sol derivs, uv spectra, fluorescence, 5107
unsymm hybrid –, synth *ms*–di– and –tri–aryl tetra– and octaethyl –, 4529
water–soluble porphyrinylphenyl–uridines, 7511
water–soluble tetra(1–methylpyridinium–4–yl)—iron(III), photocatalysed decomp of 1,2–diols by, 4007
water–soluble tetra–*p*–subst tetraphenyl— with guanidinio– and trimethylammonioacetamido–groups, 3453
see also Chlorins, Chlorophyll and derivs

Pressure, reactions under
asymmetric Diels–Alder reactions of 3–acetoxy–2*H*–pyran–2–one with vinyl ethers, 3147, corrigendum, 6044
conversion of prim and sec C–OH into C–SPh using Ph_2S_2/Bu_3P at 10 kbar, 4155
cycloaddn 2–pyrone to dienophiles, 2549

Propellanes
bridged [3.1.1]propellane, 2,4–dimethylmethano–2,4–didehydroadamantane, synth, reactions, 1655

Prostaglandins
cyclopentenone PGE_2 intermed synth, 1325
$PGF_{2\alpha}$ bearing photoaffinity probe, 1553
synth epoxycyclopentanol precursor to synth of, 7055

Prostanoids
2,7–dioxabicyclo[3.2.1]octane analog of thromboxane A2, 4599
carbacyclin synth by Pd–promoted tandem alkene insertion, 5911
clavulones I and II, synth of intermediate, 3131
iodolactone intermediate, synth using chiral Al catalyst in Diels–Alder reaction, 7517

Protecting groupss
1–adamantyl–1–methylethoxycarbonyl (Adpoc) for amino–acid N–protection; decapeptide LH–RH synth using, 345
1–methylcyclopropyl ethers, from diol acetonides, 7219
2–methylphenyl–, 2,6–dimethylphenyl– esters of *O*–phosphoserine, 7083
3,4–dimethoxybenzyl, for *N*— of 1,2–thiazetidine 1,1–dioxides, 751
4–biphenylyldialkylsilyl groups for protection of terminal alkynes, 3787
azidomethyloxybenzyloxycarbonyl, for *N*–protection aminoacids, 351
β–cyclodextrin 6–*O*–protection as TBDMS deriv, and 2–*O*–tosylation, 3997
benzyl, allyl removal from ethers by $AlCl_3/PhNMe_2$, 1321
bromine as protecting and directing group in [5]helicene cyclizations, 6831
carboxamide protection by trityl group, 739
cyanoethyl group on S of 4–thiouridine, 2′–deoxy–4–thiouridine, NH_3aq for removal, 3033
deallylation of allyl glycosides with adjacent azido groups, 7369
deprotection of 1,3–dithiane derivs by one–electron transfer to $SbCl_5$, 7421
di(allyloxycarbonyl)–hydrazines, Pd(0)/Bu_3SnH deprotection, 6629
diphenylmethylamine, α–phenylethylamine, diimines from, diamine synth and deprotection by triethylsilane, 5865
histidine, methyltrityl protection in solid–phase peptide synth, 475
hydroxy–α–amino–esters, benzophenone Schiff's base in glycosidation, 585
hydroxy–protection by 4–azidobenzyl group, removal by PPh_3, DDQ, or reduction and anodic oxidation, 3557
L–arginine, triple–*N*–protection as urethanes, *via* silyl derivs, 6025
methoxyethoxymethyl ether, deprotectn by chlorocatecholborane, 1553
methoxymethyl, methylthiomethyl, methoxyethoxymethyl, β–trimethylsilylethoxymethyl esters, removal by $MgBr_2$ in ether, 3099
N–(4,5–diphenyloxazolin–2–ones) (Ox) in β–lactams, ozonolysis to benzamido–, 3305
N–benzyl–*N*(2)–BOC protected 2–aminomethylpiperidines, 7183
N–fluorenylmethyloxycarbonyl aminoacids, synth hydroxybenzotriazinone and pentafluorophenyl esters, 6199
N–methylation of aminoacids during hydrogenolytic deprotection in methanol–acetic acid, 7463
O–methyl α–allyloxycarbonylamino–hydroxamic acids, simultaneous deprotection/acylation, 6633
o–nitrobenzyl for prot anomeric OH in oligodeoxynucleotide synth with abasic site, 207
o–pyrrolidinocarbonylbenzamide, base–stable, acid–labile modification of phthalimido group, 3301
of hydroxy–aminoacids, *N*–Fmoc–*O*–trityl derivs, use in solid–phase peptide synth, 471
p–methoxybenzyl–, *N*(3)–protection of uridine, 1905
peptide synthesis, tris(alkoxy)benzyl ester as hypersensitive acid–labile anchor, 1015
phosphate t–butyl esters, removal t–butyl groups by Me_3SiCl/Et_3N, dimethoxytrityl unaffected, 395
pivaloylaminobenzyl, for hydroxy groups, DDQ or hydrogenolysis to cleave, 4019
Schiff base for amino–ester protection in anion formation, 2277
selective protection 3,6–diazabicyclo[3.2.0]heptane, 1565
serine, as *N*–benzyloxycarbonyl–oxazolidine deriv, 1031
t–butyldimethylsilyl (TBDMS) removal from carbohydrates by transfer hydrogenation, 187
t–butyldimethylsilyl aryl ethers, deprot by KF/Al_2O_3/ultrasound, 7207
t–butyldimethylsilyl ether, deprotectn by $(HF)_nPy$, 1553
t–butyldimethylsilyl–, for 6–hydroxy groups of cyclodextrin, 2769
tetraaza–macrocycles, protection of 3 Ns as tris–triaminoborane derivs, mono–alkylation, 639
trimethylsilylethoxymethyl–, protection of H_2S_2, H_2Se_2 by, 2741
tritylated bromo–amines, for synth of poly–S–N–and poly–N–ligands, 21
vic–diol in heptopyranoses, protection as 1,1,3,3–tetraisopropyldisiloxane deriv, 2747

Proteins
complexation to neocarzinostatin chromophore, proton nmr study, 3175
conjugates to catecholamines, enzyme–catalysed formation, 4287
surfactant for cell–wall extraction of, 1437

Pteridines
6–chloro–pterin, Pd–catalysed acetylene coupling, 7357

Purines
1*H*–pyrrolo[1,2–*e*]purines, 1,2,3–trihydroxy–2,3–dihydro–, synth as nucleoside analogues, 7503
2–amino–7–glycosyl–4–purinethiones, synth, desulfurization by Raney Ni, 3919
6–chloro–, amino–, ring–opening of seleniranium salts in carba–nucleoside synth, 6341
6–methoxyde(diphenylcarbamoyloxy)dation in guanosine series, 5745
alkylation at N9 under modified Mitsunobu conditions, 7929
caissarone, sea anemone metabolite, synth, 97
pyrazolo[3,2–*i*]purines, synth from 6–enamino–purines, 7415
see also Nucleosides, Nucleotides, Uric acid and derivs

Pyranones
2–(substituted alkyl)–6–hydroxy–5–methyl–2*H*–pyran–3(6*H*)–one, synth by furan oxidation, 53
2*H*–pyran–3(6*H*)–one, (3′–*R*,6–*R*)–6–(pantolacton–3–*O*–yl)–, asymm Diels–Alder and Michael addn reactions with, 7465
6–methyl–5,6–dihydro–2–, asymm synth by chiral reduction 3,5–diketohexanoate with Ru–binap, 7699
stereochem of $Me_2CuCNLi_2$ addn to 6–hydroxy–2–spiro–2*H*–pyran–3(6*H*)–ones, 4081

Pyrans
2,2′–spirobi(tetrahydropyran) derivs in synth open–chain milbemycin analogs, 1719
2–amino–3–cyano–4,6–diphenyl–4*H*–, not found in malononitrile–chalcone reaction, 5375
2–carboxylic esters, tetrahydro–, by radical cyclization, 1491
2–iodomethyl cyclobuta–fused tetrahydro–, ring opening by zinc, 7543
2–spiro–(cyclohexan–3–one)–5,6–dihydro–4–silyloxy –, stereosel synth of oscillatoxin B fragment, 3937
2*H*–3,6–dihydro–4,6–dimethyl–2–carboxylic ester and –2–carbaldehyde dimethyl acetal, 1723
3,4–dihydro–2*H*–, α–lithio–, C–O cleavage with R–Li addn, 5903
3,4–dihydro–4–hydroxy–2*H*–, synth and enzymic resolution, 5497
3,6–dihydro–2*H*–, synth by intramol Si–modified Sakurai reaction, 4779
3–hydroxy–4–alkenyltetrahydro–, chiral synth, 6571
4,6–dihydro–4–methyl–2*H*–pyran–2–ols, synth, 4495, 4499
4*H*–3–aldehydes, Vilsmeier–Haack reagent in synth from 1,5–diketones, 3235
cyclopropyl–dihydropyrans from alkynyloxycarbene $Mo(CO)_5$ complexes, 5223
fused 3–oxotetrahydro– synth *via* intramol nitrile oxide cycloaddn, 3605
tetrahydro–, asymmetric synth by glyoxylate cycloaddn to 1–methoxydienes, 935
tetrahydro–, synthesis of lower half of FK–506, 1251
tetrahydro–, synth *via* 2,5–dihydroxyalkyl phenyl thioethers with PhS–migration, 3425

Pyrazines
(±)–2–piperazinecarboxylic acid, synth from 4–piperidone, 2469
2–chloro–, Pd–catalysed coupling to arylboronic acids, 2273
3–isobutyl–6–(3–indolylmethyl)–5–methoxy–2–one 4–oxide, synth, 6019
citreoindole, piperazinedone metabolite with tryptophan, two phenylalanine residues, 6883
fused diketopiperazines, by intramol [4+2] cycloaddn azo–dienes, 133
pyrido[1,2–*a*]pyrazin–1–one, 3–benzyl–perhydro–(verruculotoxin), synth, 1417
tetra–t–butyl–, by photochem rearr pyridazine, 57

Pyrazoles
4,4–dimethoxy–4*H*–, synth by cycloaddn of dimethoxycarbene to 1,2,4,5–tetrazines, 2743
5–amino–1–aryl–4–carbonitrile, cyclization with PhCO.NCO and NH_3 to isoguanine analogues, 6587
5–azido–4–iminomethyl–, ring opening and rearr to 5–amino–4–carbonitriles, 3565
from *o*–alkynyl–α–diazoacetophenones by cyclization, 5923
o–dimethylene–pyrazoles, generation, trapping, synth fused –, 7609

Pyrazolines
1–pyrazoline–3,5–diones, thermolysis to ketenes, and matrix irradiation to carbenes, 1961

Pyridazines
Dewar –, tetra–t–butyl–1,2–diazabicyclo[2.2.0]hexadiene, 57
fused pyridazin–3–ones, by intramol [4+2] cycloaddn unsat acylhydrazones, 125
fused pyridazines, by intramol [4+2] cycloaddn azo–dienes, 133
N,*N*′–bis(phenylacetyl)–hexahydro–, rearr of anion to 3,4–diphenyldiazecane–2,6–diones, 4517
tetra–t–butyl–, by rearr cyclopropenyldiazomethane deriv, 57

Pyridines
1,2,3,4–tetrahydropyridine derivs, from allyl–Li, –MgBr with benzonitriles, 7393
1,4–dihydro– 3,5–dicarboxylates, acyloxymethyl esters, enantiosel enzymic hydrolysis, 5805
1,4–dihydro–4–methoxycarbonyl–1–methyl–, alkylation of anion, stereochem, 1595
1–ethoxycarbonyl–, reaction with benzylic Cu–Zn reagent, 2033
1–methoxycarbonyl–1,2–dihydropyridine – methyl acrylate adduct, gabaculine, shikimic acid homologues from, 951
1–methoxycarbonyl–1,2–dihydro–, by electrocyclization of aza–triene, 6895
1–tosyl–1,2,3,6–tetrahydropicolinic acid deriv, by hetero Diels–Alder reaction, 1649
2,2′:6′,2″–terpyridine, synth from 2–acetyl–, 1999
2,3–diamino–, 6–(nucleophile–subst)– *via* 2*H*–imidazo[4,5–*b*]pyridine–2–spiro–cyclohexane, 6503
2,5–dihydro–2,5–methano–, and sulfonylated derivs, generation, decomp, 6957
2–(*o*–methoxy–, *o*–phenoxy–phenyl, 2–methoxy–1–naphthyl)–3–(α–methoxy–ethyl–, –benzyl)–, synth, atropisomerism, 2943
2–bromopyridine deriv, coupling to benzeneboronic acid, 4883
2–chloro–, Pd–catalysed coupling to arylboronic acids, 2273
2–cyano–3–cyanomethyl–1–methyl–1,2,5,6–tetrahydro –, reaction with indole, reduced pyrido–carbazoles, 7449
2–cyano–3–hydroxymethyl–1–methyl–1,2,5,6–tetrahydro–, condensation with indole and dimethyl malonate in ervatamine skeleton synth, 5413
2–fluoro–3–lithio–pyridine, intermed in 2–deoxy–*C*–nucleoside analog synth, 3297
2–glycidyloxy–pyridines, transfer with rearr of alkyl group to N, 7155
3,4–dicarboxylic anhydride, conversion into nor–quinuclidine deriv, 1241
3–hydroxypyridinecarbaldehydes, fused pyrano–pyridines from, 627

3–lithio–, methoxy displacement from 2–(2,3,4–trimethoxyphenyl)–4,4–dimethyloxazolin e by, 3871
4,4′–bipyridine, square tetrameric complexes with Pt, Pd, and complexation with organics in aqueous soln, 5589
4–benzyl–, from benzyl–Cu–Zn reagent with 1–ethoxycarbonylpyridinium salt, 2033
4′–(3–propylthio)–2,2′:6′,2″–terpyridine deriv of polypeptide GCN4, 3325
5,5′–dinitro–2,2′–dipyridyl disulfide, for dialkyldisulfide synth, 967
6–(alkylaminomethyl)picolinamides, enantiomeric bleomycin models, 6869
6–acyl–1–isopropyl–1,2,3,4–tetrahydro–, synth, 3879
cyclopenta–*c*–fused –, synth by intramol cycloaddn αβ–unsat oxime ether to ynone, 7643
cyclotriveratrylene triply bridged with pyridine–attached moieties, 3–bromopyridine–boronic acid coupling, 7261
electro–oxidation of chiral 1,4–dihydronicotinamides, 1475
Hantzsch 1,4–dihydro—, ultrasound–promoted aromatization by cupric nitrate on clay, 3839
methyl 4–(3–pyridyl)butanoate from pyrolysis of cocaine, 4405
micrococcinic acid, polythiazolyl –, synth by Pd–catalysed biaryl condensations, 4263
radical decarboxylative alkylation by I(III) compounds, 6559
synth by intramol cycloaddns unsaturated acylhydrazones, 125
synth, lipase mono–hydrolysis, of bis(acetoxymethyl) 4–(*m*–nitrophenyl)–1,4–dihydropyridine–3,5–dicarboxylate, 3465
tri–4–pyridylcyclopropenyl phenyl sulfone, synth, conversion into hexa–4–pyridylbenzene, 601
vinyl–, hydrosilylation using microwave heating, 5251

Pyridinium salts

rearr 1–methyl–1–phenacyl 1,2,3,6–tetrahydropyridinium salt to 3–vinyl–2–benzoylpyrrolidine, 2827
tris(1–methyl–4–pyridiniumyl)cyclopropenes, hexakis(1–methyl–4–pyridiniumyl)benzene, 601

Pyridones

1,6–dihydro–6–hydroxy–1–tosyl–3(2H)–, chiral, 1467
1–acetoxy–2–thiopyridone, in radical cyclizations of aryl alkenyl tellurides, 4713
1–hydroxy–2–thione, in amidyl radical generation, 1035
1–hydroxypyridine–2–thione, in carbonate radical generation, 45
2,3–dihydro–1–phenoxycarbonyl–4–, in alkaloid synthesis, 5919
3–(2–deoxyribos–1–yl)–pyridin–2–one *via* 2–fluoro analog, 3297
4,6–diphenyl–2—3–carbonitrile, from chalcone–malononitrile reaction, 5375
5,6–dihydro–4—1,3–dicarboxylic esters, addn of alk(en)yl cuprates, 3643
decarboxylative radical addn to phenyl vinyl sulfone via *N*–hydroxypyridine–2–thione esters, 199
leporin A, 1–methoxy–2— from fungal sclerotia, 5687
N–(hydroxyalkyl)–5–nitro–2—, by reaction of 2–glycidyloxy–5–nitropyridine with nucleophiles, 7155
nucleophilic 2–alkylation, 2,6–dialkylation, with reduction, 5697, 5889, 5919

Pyrimidines

2–chloro–, Pd–catalysed coupling to arylboronic acids, 2273
2–subst–4,6,6–trimethyl–dihydro–, tautomerism, H/D–exchange in, 2057
6–chloromethyl–4–fluoro–, from chloromethyl α′–trifluoromethylalkyl ketones and formamidine, 2467
hexahydropyrimidine carboxylic esters, 2–cyanoimino–4–oxo–, 691
poly(2,5–pyrimidinylidenevinylene) with alkoxy substits, 5059
tetrahydro—4–carboxylic acids, 6–phosphonoalkyl–, synth as NMDA receptor antagonists, 7659
see also Nucleosides, Nucleotides, Uracils

Pyrimidinium salts

1,4,5,6–tetrahydro—, synth, 5031
1–carbacytidine synth through amino–cyclopentanetetrol and cyanoacetylene, 6281

Pyrimidones

barbiturates, mono–*N*–subst, enzyme–mediated enantiosel synthesis, 6763
nmr distinction between N1– and N3–substituted derivs of 6–aminouracil, 6539

Pyrolysis

(–)–cocaine, methyl 4–(3–pyridyl)butanoate from, by elimination, retro–Diels–Alder, and imino–ene cyclization, D–labelling, 4405
anhydrides to arynes by fvp; indeno[1,2–*b*]indole synth, 801
flash – of mellitic trianhydride, isol of C_7O_2, 4469
flash vacuum, of tetrahydroquinoline, chroman, thiochroman, quinone methides from, 2013

Pyrones

2—, cycloaddn under pressure, CO_2 loss and intramol Diels–Alder reaction to bridged bicyclo[2.2.2]octene systems, 2549
2*H*–pyran–2–one, 3–acetoxy–, high–pessure asymmetric Diels–Alder reactions with vinyl ethers, 3147, corrigendum, 6044
2*H*–pyran–3(6*H*)–one, 6–hydroxy–, by furan oxidation with t–BuOOH/VO(acac)$_2$, 1749
3–bromo–2—, synth and Diels–Alder reactions of, 5295
3–carboxy–tetrahydro–4—, ring opening and Nazarov recyclization by trimethylsilyl triflate, 7731
4,6–dihydro–2–pyrone, 6–dihydroxytrienyl–, isol from sea water, 315
5,6–dihydro–2–pyrone, cycloaddn to *N*–benzylazomethinimine, 1241
by $AlCl_3$–catalysed cyclooligomerization of acyl chlorides, 2153
naphtho[3,2–*b*]pyran–2–one, reduced, synth part structure of paspalicine, 1381
tetrahydro–, by Baeyer–Villiger oxidation cyclopentanones, 1479
1–phenyl–2–bis(diethylphosphonato)methyl–, synth, 4279

Pyrroles

1*H*– and 2*H*—, by azomethine ylid cycloaddn from *N*–(α–silylbenzyl)amides, 5813
2,5–bis(diarylmethylene)–2,5–dihydro–1–methyl—, synth, 4313
2*H*–3,4–dihydro— 1–oxide, 3,4–dihydroxy–2–(1–hydroxyethyl)–, by rearr of hydroxylamino–sugar, 1851
2*H*–3,4–dihydro–3,4–dihydroxy–2–hydroxymethyl—, synth from L–lyxose deriv, 3927
3–hydroxy/methoxy—2–carboxylic esters, singlet oxygenation, 2,5–, 2,3–addn, 2,3–epoxidation, 7571
4–formyl–2,3–dihydro–2–hydroxymethyl–(*o*–nitrobenzoyl)–, synthon for anthramycins, 2233
β–substituted, by hydroformylation β–alkynamines, 1093

cycloaddn of nitrile oxides, nitrilimines, to 2*H*—, regiosel addn to C=N bond, 3709
dipyrromethanes, 5,5′–dibenzoyldipyrromethanes, in hybrid porphyrin synth, 4529
fused to 4–azahomoadamantane system, 4965
N–methyl–, charge transfer complexation and substitution into by $(CF_3)_2C{=}C(CN)_2$, 1871
pyrrol–3–en–2–one, 5–hydroxy–3,5–disubst, by oxidative rearr furan–3–carboxamide deriv, 3635
pyrrole esters, by electroreduction of 4*H*–thiazine esters, 2225
pyrroles from 1–piperidinocyclopropyl ketimines, mech, labelling study, C–nmr, 7127
subst of aryl halides by – anions, electrochemically induced $S_{RN}1$, 6121
synth di– and tetra–subst —2–carboxylic acids, —2–carbaldehydes, in synth porphyrin corallistin A, 4231
trisubst 2–carboxy–, 2–hydroxymethyl– derivs, synth *via* cyclohexene Diels–Alder adducts, 1765

Pyrrolidines, pyrrolidinones
(*S*)–2–methoxymethyl–, chiral induction in silyl carbanions, 1847
(*S*)–pyroglutamic acid, synth (+)–monomorine I, indolizidine ant pheromone from, 3365
1,2–dicarboxylic esters, by CuCl–promoted radical cyclization, 3123
1,3,4–dihydroxy—, and 2–subst analogs, spin–labelling by oxyls from, 4129
1–(3–hydroxypropyl)pyrrolidines, photocyclization by SET to perhydro–pyrrolo–oxazines, 5147
1–amino–2–methoxymethyl–(SAMP), in chiral synth 2–alkylcycloheptanone, 537
1–fluoroacetyl–2,5–dimethyl—, allyl enol ethers from, enantiosel rearrangements, 4267
2,3,4–tricarboxy–pyrrolidines, synth by azomethine ylid – maleimide cycloaddn, 7531
2–(pyridylthiomethyl)pyrrolidines, synth by radical cyclization, 6493
2–carboxy–3—acetic acid, (2*S*,3*R*)–, diastereosel synth, 3057
2–pyrrolidones, by Bu_3SnH cyclization *N*–vinylic α–chloroacetamides, 1725
3,6–diazabicyclo[3.2.0heptane system, synth, 1565
3–amino–, synth by intramol amino–/amido–mercuration of δ–unsat αβ–diamines, 3205
3–methylene–, and –2–ones, by intramol cyclization nitronate anion to alkyne, 1363
3–vinyl–2–benzoyl– by rearr 1–methyl–1–phenacyl 1,2,3,6–tetrahydropyridinium salt, 2827
4–hydroxymethyl–1–(pyrimidin–2–on–1–yl)—, dideoxynucleoside analogs, 3863
α–diethylphosphoryl pyrrolidine–1–oxyls, 3841
α–phosphonyl nitroxides, synth, esr, 2125
asymm synth substituted pyrrolidin–2–ones from L–pyroglutamic acid, 1379
bisignate n–π* Cotton effect in *N*–nitrosopyrrolidines, 3255
by cycloaddn *N*–benzylazomethinimine to 5,6–dihydro–2–pyrone, 1241; to 2–methylenebutyrolactone, 1245
by Mitsunobu cyclization 1,4–amino–alcohols, 161
dolaproine, stereosel synth, 931
lydicamycin, pyrrolidine–tetramic acid antibiotic from *Streptomyces lydicus*, 213
prolines, synth from Michael adducts of glycine Schiff bases, 3727
prolinol, chiral auxiliary in clerodane synth, 2621
pyroglutamic acid, asymmetric synthesis hydroxy–and hydroxymethyl–pyrrolidones from, 6949
pyroglutamic acid, diastereoselective functionalisation, 2679
pyrrolidin–2–ones, from azetidine–3–acetic acids by rearr, 4799
pyrrolidine–2–spirocyclopentane, 4–methyl–3–phenylthio–1–tosyl–, synth, 6645
raphanusanins, structure reassignment as pyrrolidinethiones, 6753; cryst structure raphanusanin B, 6757; raphanusamide, also a pyrrolidinethione, 6761
synth acromelic acid congeners from *trans*–L–4–hydroxyproline, 2625
synth ant venom pyrrolines, pyrrolidines from L–pyroglutamic acid, 7521
synth by cycloaddn of azomethine ylids catalysed by chiral Co(II), Mn(II)–catalysts, 5817
synth *cis*– and *trans*–2,4–dicarboxylic acids, analytical resolution, 3049

Pyrrolines, pyrrolinones
1–pyrrolines, by azomethine ylid cycloaddn from *N*–(α–silylbenzyl)amides, 5813
2–butoxycarbonylpyrrol–3–ones, 1,2–dihydro–, from t–butyl 3–aryl–2,3–dioxopropanoates on reaction with aldimines, 6039
3–pyrrolin–2–ones, 5–t–butoxycarbonyl–5–hydroxy–4–methoxy–, synth by pyrrole singlet oxygenation, 7571
ant venom precursor pyrroline, synth from L–pyroglutamic acid, 7521
chiral synth 1–Boc–5–silyloxy–3–pyrrolin–2–one, 6949
intramol azide–olefin cycloaddn in Δ^1–pyrroline synth, 6469
N–trimethylsilyl–2–pyrrolines, by rearrangement of *N*–trimethylsilylmethyl αβ–unsat imines, 5093

Pyrrolizines, pyrrolizidines
2–(pyridylthiomethyl)—, synth by double radical cyclization, 6493
4*H*–3–cyano–1,2–dimethylbenzo[*b*]pyrrolizine, synth, 7237
alkaloids, synth *via* π–allyl iron tricarbonyl complex, 7119
by Mitsunobu cyclization 2–(3–hydroxypropyl)piperidines, 161
dehydromonocrotaline, nucleoside alkylation by, 927
synth 3–heptyl–5–methyl—, xenovenine and stereoisomers, 5543

Pyrylium ions
triphenyl– , triplet state as catalyst for electron transfer oxidation of stilbenes, 109
triphenyl—, sensitisation of s.e.t. reactions in 1,3–dithianes by, 4349

Quinolines, quinolinones
1,2,3,4–tetrahydro– and 2–ones, synth by radical formation 4–4a bond, 2829
1,2,3,4–tetrahydro–, pyrolysis to *o*–quinonimine methide, 2013
1,2,3,4–tetrahydro—2– and 4–spiro–cyclohexadiene, synth by iron complex chemistry, 1953
1–acetyl–1,2,3,4–tetrahydro—, 3,3–disubst, synth in tandem Pd–cyclization anion capture, 2545
2–acyl–3–hydroxymethyl–, by intramol acyl transfer, 2171
2–fluoro–3–lithioquinoline, intermed in 2–deoxy–*C*–nucleoside analog synth, 3297
2–phenyl–3,4–dicarboxylic anhydride, fvp; indeno[1,2–*b*]indole synth, 801
2–trifluoromethyl–, by Pd/C cyclization *N*–phenyl αβ–unsat imines, 1459
4–hydroxyquinolin–2–ones, photocycloaddn of olefins, 5115
4–nitroquinoline–1–oxide, reaction with cytosine derivs, pyrimido[1′,6′;1,2]imidazo[5,4–*b*]quinolin–1–one , 6–amino–2–subst–, rearr of 2–ribosyl deriv, 5233

5,8–quinone, cycloaddn to 2–ethoxy–2–butenal *N,N*–dimethylhydrazone, 1307
7–(subst amino)–5,6,7,8–tetrahydro—, synth from 5,6–dihydro—, 6789
8–hydroxy–, phosphochloridite from PCl_3; stabilised formal P^+ species, 75
cycloalkeno–[*b*]–fused – by photocyclization of α–arylidenecycloalkanone oximes, 5235
electro–oxidation of chiral 1,4–dihydro–3–carboxamides, 1475
enzymic oxidation of quinoline, abs config of products, 2963
perhydro—4–one, synth from 4–methoxypyridine in pumiliotoxin C synth, 5697
quinolin–4–ones from 2–haloanilines using acetylenes/CO/Pd(0), 237
quinolone antibacterials containing 3,6–diazabicyclo[3.2.0]heptane system, 1565
radical decarboxylative alkylation by I(III) compounds, 6559
synth by Pd–catalysed coupling allylic alcohols to *o*–iodoaniline, 569

Quinolizidines
(1*R*,2*R*,3*S*,9*S*,9a*R*)–1,2,3,9–tetrahydroxy—, homologue of castanospermine, synth, 4889
1,2,3,9–tetrahydroxy–4–hydroxymethyl—, synth, pmr, glucosidase inhibition, 5853
benzo–, synth podophyllotoxin analogs by Bischler–Napieralski route, 2489
quinolizidin–4–one synth by transannular reaction, (±)–epilupinine synth, 5709

Quinolizinium ions
hexahydro–benzo[*b*]–, nmr and conformation, 2489

Quinones
1,4–anthra–, cycloaddn to in (±)–carminomycinone synth, 6179
1,4–benzo–, 1,4–naphtho—, cycloaddn to sugar arylazo–alkenes, 2513
2–acetyl–1,4–benzo—, –1,4–naphtho—, silyl enol ether addn, 3803
3,10–perylene–, polyoxy–, mould pigment synth, 859
3,4–dichloro–5–(2,3,4–trichloro–6–methoxyphenoxy)–*ortho*–benzoquinone, 543
5,6,11,12–tetrahydro–5,12–*o*–benzeno–dibenzo[*a,e*]cyclooctene–1,4,8,9–tetrone, synth, intramol *o*–quinone–*p*–quinone attraction, 3183
5,8–dihydro–5,8–methano–1,4–naphthoquinone, cycloaddn to cyclobutadiene, 6399
5–anilino–3–methoxy–2,1–benzisoxazole 4,7–quinone, ring–opening and recyclization, 5825
5′–deoxy– and 5′–deoxy–juglomycin A, naphthoquinonoid –, synth, 6417
anthraquinones, reaction with α–lithio–*N*–methylbenzamide, 3845
benzo– mono–ethylene acetal, synth, 5025
carboxy–, acetyl–, formyl–, trapping by 5–vinyl–2,3–dihydrofuran deriv, 1519
chloromethyl–trimethyl–*p*–benzo—, synth, $S_{RN}1$ reactions, 4125
dibenzo[*a,j*]perylene–8,16–dione (heterocoerdianthrone), improved synth, 3845
herbimycin A, synth ansa–1,4–benzoquinone, 1,4–benzenediol oxidation by AgO, 6015
indole–4,7–, phenolic coupling to, 2035
indole–4,7–quinone, 5–amino–1–methyl–3–(4–aminocarbonyl–2–thiazolyl –) isol, nmr, 2791
mamanuthaquinone, 2–hydroxy–5–methoxybenzo—deriv from sponge, 6687
methano–bridged naphthoquinones, anthraquinones, cycloaddn to cyclobutadiene–1,2–dicarboxylate, 4989
ortho— mono–acetals, photo–rearr to cyclopentenones, 4553
ortho—, formation by oxidation of phenols by dimethyldioxirane, 5441
p–benzoquinone methide, generation, addn of imidazole nucleus of *N*–acetylhistidine, 4287
p–benzoquinone mono–(*N*–aryltrifluoroacetimidoyl)imine, generation, rearrangement, 5981
quinoline– and isoquinoline–5,8—, cycloaddn to 2–ethoxy–2–butenal *N,N*–dimethylhydrazone, 1307
quinone methide intermeds in 7α–formamido cephalosporin synth, 2683
quinone mono–acetals, by anodic oxidation of *O*–methyl–*O′*–allyl/propargyl/buta–2,3–dienyl quinols, 7591
quinone–mono–iminium salts, prianosins C and D, 1,7–phenanthroline derivs, 1227
stannylquinones, Pd–catalysed oxidative dimerization, 2,2′–bi–benzo–, –naphtho–quinones, 5681
thysanone, 1,4–naphtho— 2,3–cyclic acetal, 5279
xestoquinone, synthesis of intermediate using furan ring transfer strategy, 4761
[3.3]metacyclophane, dimethoxy–dicyanomethylenequinone *syn* and *anti* isomers, x–ray, UV, CT interactions, 2215

Quinoxalines
2–chloro–7–nitro–, unusual substitution by piperidine, 1311

Radicals and radical reactions
1,3–cyclopentanediyl, laser excitation of, 2211
1,4–dihydro–4–methoxycarbonyl–1–methylpyridine, alkylation of anion, stereochem, 1595
1–diphenylphosphinoyl–, 1–phenylsulfinyl–, and 1–phenylsulfonyl– 1–(ω–iodoalkyl)–allenes, cyclizations promoted by Bu_3SnH, 3659
1–ethynyl–3,4–dihydro–6–(3–oxo–1–butynyl)fulvene , cyclization to indane derivs, 4863
2,3,6,7,10,11–hexakis(hexylthio)triphenylene, radical cation with S–S 3–electron bond, esr, uv, 6195
2,4–dibenzylidene–6–methylbicyclo[3.1.0]hexan–3–o ne, thermal epimerisation kinetics, planar ring intermediate, 5869
2–diphenylmethylenecyclopentane–1,3–diyl, trapping by nitrosobenzene, 4383
3–methoxycarbonylmethyl–2,3–dideoxy–ribosides, synth by radical cyclization, 3469
4–pentenyl tosylates, thiotosylates, radical cyclization to 2–tosylmethyl tetrahydrofurans, tetrahydrothiophenes, 6653
9,10–cleavage of steroidal 3–oxo–1,4–dienes by Bu_3SnH or $(SiMe_3)_3SiH$, 7247
9–decalyl –, generation, question of stereoisomerism, 5385
α,α–difluoromethyl radicals, generation, cyclization, 5873
α–bromosugar addn to 3–methylidene–7–oxabicyclo[2.2.1]heptan–2–one deriv, C–linked disaccharides by, 1429
α–chloro–α–(alkenyloxy–, *N*–protected alkenylamino–)–acetic esters, CuCl–promoted cyclization, 3123
α–diethylphosphoryl piperidine–, pyrrolidine–1–oxyls, 3841
α–phosphonyl pyrrolidine nitroxides, synth, esr, 2125
acyl, tetrahydrofuryl, cyclohexyl, addn to methyl 4–chloro–3,3,4–trifluorocyclobutenecarboxylate, 7265
addition 1–lithio–1,2,3,4–tetrahydroisoquinolines to carbonyl compounds, 1941
addition dinitrogen tetroxide to 1,2–dimethylcyclohexene, 1711

addition of iodomethyl phenyl sulfone to alkenes, 3259
addition of methyl acrylate to 1,6–dimethyl–2–α–naphthyl–6–oxobicyclo[2.2.2]oct–2–en–5–yl radicals, 6609
allyl carbonate O–radicals *via* PTOC esters; cyclization, 45, 49
allyl propargyl ethers, cyclization by stannyl radicals, 1799
allylation, [3+3]annulation by, photo–cyclization employing Sn radicals, 843
AM1 calculations on fulvene diradical species, 4601
amidyls RCON·R′, generation, cyclizations, 1035
aminyl – by benzenesulfenamide desulfenylation, 6441
aminyl – from hydroxypyridinethione carbamates, cyclizations, 6493
aryl radical 6– and 7–*exo* cyclizations, synth benzo–fused N–heterocycles, 2829
aryl radical cyclization promoted by SmI_2, 1737
arylselenolate anion catalysed addn R_FI–ArS^- to enol ethers, 3385
aryltellurium–mediated cyclizations, 4713
benthocyanin A, radical scavenger furo–phenazine, 943
benzoyloxy –, trapping and phosphite deoxygenation, 311
bi–nitroxide, dipolar splitting in frozen solution ESR spectra modified by thiourea, 2021
bicyclo–[5.3.0]decan–1–ones, –[6.3.0]undecan–1–ones, synth by ring expansions, 1591
bis–nitroxide from trapping 2–isopropylidenecyclopentane–1,3–diyl by nitrone, 3711
Bu_3SnH cyclization 1–(*o*–bromobenzyl)–tetrahydroisoquinolines to aporphines, 529
cathodic reduction of 1,2–bis(alkylsulfonyl)benzenes, radical desulfonylation, 2481
cations cyclic voltammetry per(alkylthio) derivs linear tetrathiadibenzofulvalene, 479
CF_3 radicals, aromatic substitution by, generation from $CF_3SO_2^-$, 7525
chain mech for dediazoniation of *p*–nitrobenzene diazonium salt by phosphite and phosphine, 5601
chain mech photo–addn alcohols to fluoro–olefins, quantum yields, 251
cleavage of 1,3–oxathiolanes, thiazolidines, by 1,1,1,3,3,3–hexamethyltrisilane, 2853
cobaloxime–catalysed coupling of bromo–compounds to styrene, photo–induced, 6273
cobalt(II) chloride catalysed – of anisole, 5179
cyclisation bromo–nitrobenzanilides in pyrrolo–phenanthroline alkaloid synth, 65
cyclization allylaminocarbonylcobalt salophen, thienamycin precursor, 259
cyclization of ω–bromoacyl trialkylsilanes by Bu_3SnH/AIBN, 3515
cyclization of *–halo–α–alkynyl sugars, benzyloxy elimination as benzaldehyde, 2017
cyclization, 5–*endo*– and 4–*exo*–trig, of *N*–vinylic α–chloroacetamides by Bu_3SnH, 1725
cyclization, Pd(0)–catalysed, forming hetero–polycyclic systems, 1359
cyclizations forming angular trifluoromethyl decalone systems, 4143
cycloaddn cyclopropabenzene to diphenylisobenzofuran, 593
cyclohexanone selenoacetals, stereochemistry of Bu_3SnH reduction, 3231
cyclohexyl – addn to αβ–unsaturated amides, rates and stereoselection, 707
cyclopropyl ketones, ring–opening with SmI_2, radical enolate reactions, synth spiro and fused ketones, 6211
decarboxylative radical addn to phenyl vinyl sulfone via *N*–hydroxypyridine–2–thione esters, 199
dechlorination of di–1–adamantylchloromethane by BuLi in hexane, 2203
deoxygenation of 2′–alkynyl–*arabino*nucleosides, radical configuration, 6003
deprotection of 1,3–dithiane derivs by SET to $SbCl_5$, 7421
diastereofacial selection in Ph_2SiH_2 addn to chiral olefins, 3683
diastereoselectivity of 1,5–biradical cyclization, steric barriers in, 165
dinaphtho[1,8–*bc*;1′,8′–*fg*][1,5]diselenocin, radical cation with Se–Se bond, disproportionation, hydrolysis, 4345
disproportionation of biradical, 1,6–H(D)–atom transfer, 895
electro–induced $S_{RN}1$ of 2,6–di–t–butyl phenoxide into *p*–chlorophenyl sulfones, 6705
electron transfer and diazo–coupling in diazonium salt reactions with 2–nitropropanide anion, 5449
electron transfer mediated photochem methanol addns to tetrahydrocyclopropa[*a*]indene, 173
electron–transfer reactions of alkylideneadamantanes induced by aminium salts, 117
$FeFe(CN)_6$ oxidation 4,5,6–trichloroguaiacol, 543
ferric picolinate–catalysed oxidation of cage hydrocarbon binor S to monoketone, 6263
glycopyranos–1–yl generation, reductive quenching, 2565
hexakis(1–methyl–4–pyridiniumyl)benzene, triplet tetracationic species, 601
homologation of acids *via* R* using (α–subst–vinyl) phenyl sulfones, 3309
homolytic acylation of ferrocenes, 4993
homolytic H–shift on rearr of 6,6–difluorobicyclo[3.1.0]hex–2–ene, 3933
hypoiodite of hemiacetal, photo–cleavage, 5999
iminyl –, generation from *O*–carboxymethyl oximes by Barton photolytic method, 4299
intramol cyclization to posn 5 on R· addn to 7–oxabicyclo[2.2.1]hept–5–en–2–*endo*–ol silyl ketene acetal deriv, 3491
intramol cycloaddn of allenyl sulfones to diene system, 1351
intramolecular – cyclization using silaketal tethers, 573
iodine transfer from iodomalononitriles to alkenes, 6307
iodo–epoxidation of t–allylic alcohols using $PhI(OAc)_2/I_2/h\nu$, 7493
iron–catalysed oxidation of alkyl benzenes –Gif–IV method, 2547
isocopalenyl iodide with tributylstannane in addn to αβ–unsat esters, nitriles, 7587
ketyls, generation using SmI_2 in HMPA and addn to *O*–benzylformaldoxime, 3555
manganic and cupric acetate–promoted cyclization of a β–keto–icosatetraenoic ester, 4819
methylenecyclopentannulation of double bonds, thiyl radical catalysed addn of 2–isopropylidenecyclopropane–1,1–dicarboxylic ester, 5765
minor photolysis pathway of benzyl dialkyl phosphates, 7013
$Mn(OAc)_3$–promoted addns of β–diketones, β–ketoesters, to cyclic enol ethers, 7107, to cyclic enol thioethers, 7111
N,N–bistrimethylsilyl (*E*)–3–tributylstannylallylamine, synth, 4121
nitromethylation, β–cyano–β–ethoxyvinylation, of monosaccharide cobaloxime derivs, 3639
nucleophilic substitutions $S_{RN}1$ of chloromethyl–trimethyl–*p*–benzoquinone, 4125

olefin synth from β–hydroxysulfone xanthates, selenobenzoates, thionocarbonates, 2703
one–electron reduction of $RR'P(OR'').BH_3$, 3371, and of $RR'PO(OR'')$, 3375
oxa–cycles from α–phenylthio–α–alkenyloxy–acetic esters, 1491
oxidation of phenols by dioxiranes, 5445
oxidation with Fe reagents, kinetic isotope effects and mechanism, 3811
oxidative addn of hydroxide ion to nitroalkenes, forming nitrooxiranes, 2285
oxyls from 1,3,4–dihydroxypyrrolidine and 2–subst analogs, 4129
perfluoroalkyl–selenation of olefins, 375
perfluoroalkyl–telluration of olefins, perfluoroalkyl–ethoxylation of vinyl ethers, 7425
phenylalkyl radical cations, theoretical calculations on cleavage, 4933
photo–Fries rearr of benzenesulfonanilide in cyclodextrin, *ortho* selectivity, 2975
photo–induced SET reaction of allylstannane with αβ–epoxyketones, 2029
photocatalytic benzylic oxidation using 9,10–dicyanoanthracene, methyl viologen, ferrous chloride, 4291
photochemical interaction of haematoporphyrin with hendec–10–enoic acid, 5167
photocyclization by SET mechanism of *N*–(3–hydroxypropyl)–t–amines, 5147
photocyclization *N*–propargyl β–ketoamide, 3051
photocycloaddn of *N*–benzoylindole to olefins, mech, trapping of radical intermeds by H_2Se, 4107
photocycloaddn of olefins to 4–hydroxyquinolin–2–ones, 5115
photofragmentation of 2–morpholino–1,2–diphenylethanol by Rose Bengal and derivs, electron transfer mech, 7507
photoreduction 10–methylacridinium ion by Ph_3P in $MeOH/H_2O$, 1047
photostimulated $S_{RN}1$ in coupling phenols to bromobenzenes with fluorine substits (*p*–F, $–CF_3$, $–OCF_3$), 3487
polar substituent parameters for radicals; radical addn to subst styrenes, 4275
pyridine–type heterocycles, radical decarboxylative alkylation by I(III) compounds, 6559
radical addn to vinylphosphine *P*–oxides, 3265
radical cation set mechanism in BF_3–catalysed sulfenylations by 4′–nitrobenzenesulfenanilide, 5621
radical cyclization of 2–alkenylthiazolidines using tristrimethylsilylsilane, 6265
reaction of styrene, β–methylstyrene, with $Pb(OAc)_4$, ultrasound–irradiated, 6379
reaction of tri–t–butylphenyllithium with lead(II) chloride, 6601
reactions of phenyldiazomethane with triflic anhydride, aminium salts, 729
reduction of azido–nucleosides to amino— by Bu_3SnH/AIBN, 6293
reduction of ketones by amines; strained ring–opening nearby, 1315
reduction of pent–2–en–4–ynoate esters by s–$Bu_2Cu(CN)Li_2$, mech, labelling study, 7229
reductive PhS–removal from α–phenylthio–t–amines by Li(t–$BuC_6H_4)_2$, 1975
reductive rearr dynemycin A to dynemycin H, 6007
removal of α–oxy–substit from β–lactam by xanthate reduction, 3105
ring closure to uracil 6–posn of 3–iodopropyl chain from riboside 1′–posn, 4549
ring expansion 12– and 15–membered α–iodomethyl β–ketoesters, 565
ring expansion 12– to 13– and 15– to 16–membered β–ketoesters, 565
ring expansion of vinyl spiro–oxiranes, tin–, thiyl–radical mediated, 6575
SET mechanism in phase–transfer cyclopentadiene alkylations, 5773
single electron oxidation of tetramethoxybenzpinacolone by benzoyl bis(2,6–difluorophenyl) C^+ ion, C–13 CIDNP, 3187
sonochemical coupling of bromotoluenes by Li, 7133
statine, 4–*epi*–statine, synth by radical cyclization, 401
stereochemistry of radical addns, Cram's rule, 6097
stereoselective tin hydride reduction and halogen substitution in β–alkoxy–α–haloesters, 27
sulfonyl cyanides, reaction with $R^•$ forming carbonitriles RCN, 3321
synth 1,2–diol diacetates from aldehydes and ketones, $BrCH_2OCOMe$ and SmI_2, 2433
synth 3–spiro–oxindoles in approach to gelsemine, 4099
synth of β–lactams by $HSnBu_3$ cyclization of *N*–(α–bromoacyl) enamines, 2335
telomerisation of *N*–[(trishydroxymethyl)methyl] acrylamide, by thiol/AIBN, 1437
tetrahydrofuran–1–yl radicals in synth C–nucleoside models, analogs, 3377
thiyl – promoted photochem (*Z*) → (*E*) olefin isomerization, 537
tin hydride cyclization of ω–bromo–polyoxyalkyl oxime ethers, 6437
tin hydride desulfenylation of benzenesulfenamides, reactions of aminyls, 6441
tributyltin hydride promotion of addn and [2+2+2] cycloaddn of ethyl propiolate to acrylic ester, nitrile, 5101
triplet diradical 1,3–cyclopentanediyl, trapping by nitroxide, 1405
triplet diradical prediction for 6,6–bis(cyclopentadienylene)fulvene and 6,6′–bis(6–cyclopentadienylenefulvene), 445
xanthates, thionocarbonates, reduction to hydrocarbons using $Et_3SiH/(PhCO)_2O_2$, 7187

Rearrangements

(*E,E*)–suspensolide, BF_3–catalysed – to anastrephin and epianastrephin, stereochem, 5303
1,2,3,4–tetrahydro–1,4;2,3–diepoxynaphthalenes to 1–acyl–2–indanones, 851
1,2–dihydro–2–oxy–2–vinylbenzocyclobutenes, to α–tetralones, 819
1,2–divinylcyclobutane to 1,5–cyclooctadiene, 551
1,2–migrations in α–oxyalkenyl trialkyl borates, 6961
1,3— of chiral γ–silyloxy allylstannanes, stereochem, 2101
1,3–boron shifts in γ–(trimethylsilyl)allylboranes, 3029
1,3–shift of trimethylsilyl group in 2,4,6–tris[bis(trimethylsilylmethyl)]phenyl lithium, 2049
1,4–epoxy–1,4–dihydrobenz[*d*]isoxazole to oxepino[3,2–*d*]isoxazole deriv, 1161
1–(2–oxiranyl)silacyclobutanes, base–induced – to silacyclopentanes, 4545
2–(2,2–dimethoxyethyl)–1–ethynyl–1–silyloxycycloh exane, with $SnCl_4$ to bicyclo[5.3.0]–dec–9–en–2–one, and homologs, 7361
2–isoxazoline–5–spirocyclopropane deriv, to fused dihydro–4–pyridone, 6395

3–aza–Claisen – in formation of homoallylic nitriles from iminophosphoranes and ketenes, 4041
3–cyclopropylallyl alcohol to hexa–3,5–dienol system, 2339, 2343
4–acetoxy–1–((*Z*)–crotyldimethylsilyl)–2–azetidin one to 4–(α–methylallyl) deriv, 2143
5–anilino–3–methoxy–2,1–benzisoxazole 4,7–quinone, ring–opening and recyclization, 5825
5–azido–4–iminomethylpyrazoles, to 5–aminopyrazole–4–carbonitriles, 3565
6–alkoxy–5–diazodihydrouracil, thermal – to 1,2,3–triazole–4–carboxamide; Rh(II)–catalysed – to 5–alkoxymethylene–2,4–imidazolinedione, 3799
7–acylmethylbicyclo[3.3.0]octan–3–ones, – to bicyclo[3.2.1]oct–2–enes by BF_3/glycol, 515
α–chloro–spiro–β–lactones, rearr to fused butenolides, 6501
α–iodoalkyltetrahydrofuran to tetrahydropyran, AgOAc–promoted, 2249
acid–catalysed skeletal – and ring B aromatization in kaurene diterpenoids, 7667
acid–catalysed, of spiro–butanolides to fused cyclopentenones, 3215
acid–catalysed, of steroidal *N*–methylisoxazolidines, 7605
acid–catalysed, synth fused cyclopentenones by rearr of spiro–butanolides, 3215
acylphosphoramidates to phosphoryl imidates, 137
alkynylcarbenes, 1,3–carbenoid shift, 983
allyl silylmethyl ethers, Wittig (1,2–) and Wittig–Still (2,3–) –, 5401
allyl sulfoxide to sulfenate – in chrysanthemonitrile synth, 2637
ANRORC in reaction of methylhydrazine with 4–benzoylisoxazole–3–carboxylic ester, 3229
aza–Claisen –, allylacetonitriles from *N*–allyl amides, 179
β–(cycloprop–3–enyl)–αβ–unsat enones, to α–oxocycloalkeno–cyclopentadienes, Rh(II)–catalysed, 3755
benzilic acid type – in reactions of t–butyl 3–aryl–2,3–dioxopropanoate with aldimines, 6039
Claisen –4–[2–(2–pyridylethynyl)–2–methylethyloxy]benzo nitrile, 811
Claisen – cyclic *O*–allyl ketene aminals, 4199
Claisen – of allylic enol ethers from 1–fluoroacetyl–2,5–dimethylpyrrolidine, 4267
Claisen – of allylic ester enolate in stereosel synth trisubst olefin, 2909
Cope rearr forming cyclopenta–cyclooctadienes from divinyl cyclobuta–cyclopentanes, 6969
cyclopropyloxirane to 3–(α–hydroxyalkyl)cyclobutene, 551
di–π–methane –, 1–aryl–2–(diarylpropadienylidene)–3,3–dichloro – to 1–aryl–2–(diarylmethylene)–3–(dichloromethylene)–phosphirane, 6879
dibenzo[*c*,*e*][1,2]thiazine *S*–ylids, 4359
dibenzo[*f*,*h*]–, dinaphtho[2,1–*f*;1′,2′–*h*]–[1,5]dithionin, rearrs of anions, 4771
dienone–phenol, of 4–cyano–4–methylcyclohexa–2,5–dienone, 1921
Dimroth – in 1–benzyl–6–iminopurinone deriv, 97
double Ireland–Claisen – in two–directional polypropionate chain synth, 7601
electrophilic addns to brexadiene, Wagner–Meerwein –, 6429
H–shifts during Pd–catalysed enyne metathesis of alkynyl–subst cyclic olefins, 3647
halogenative I(III)–catalysed α–haloenone formn from sec alkynols, 2099
Heyns – of 16–hydroxyestrone imine deriv, 1213
Hofmann – of amide using $PhI(OCOCF_3)_2$, 4249
Ireland–Claisen – in synth clerodin fragment, 5953
ketene amino–Claisen – forming 3–azabicyclo[4.3.0]non–7–en–4–one, 7233
methyl cyclohexenyl ether to methyl *N*–brosyl cyclopentylimidate with brosyl azide, ultrasonic acceleration, 2457
migration (1,3) of allylic nitro group, 623
N–acyl–β–(halo–, tosyloxy–)piperidine system, ring contraction, 6517
oxa–di–π–methane – of bicyclo[2.2.2]oct–2–en–5–one deriv, 4011
oxidative rearr of 2–spiro–chroman–4–ones to 2,3–fused chromones, 5619
Payne – in *endo*–3–hydrox–*exo*–4,5–epoxy–tricyclo[5.2.1.$0^{2,6}$]dec–8–enes, 3127
Payne rearr in an epoxide from D–mannose forming 1,5–anhydro–D–allitol deriv, 6089
photo–induced vinylcyclopropane–cyclopentene rearr, 1107
photorearr of *N*–carbomethoxynorcodeinone, chirally stable dibenzo[*d*,*f*]azonine, 7499
pinacol–pinacolone, in synth of fused cyclopentane systems, 3069
pinacol–pincacolone –, tricyclo[10.2.1.$0^{4,8}$]pentadecane–1,2–diol deriv to tricyclo[9.3.1.$0^{3,8}$]pentadecan–13–one, 6679
radical – in ultrasonic bromotoluene couplings by Li, 7133
radical 1,4–H shift and double bond rearr in spiro–oxindole synth, 4099
reductive ring expansion of thiophene to thiopyran, 3499
sigmatropic [3,3]–, forming 10–membered thiolcarbonates, calculations on, 1203
silyl enol ethers of *N*–aryl–*O*–acyl hydroxamic acids, to *o*–benzamidophenylacetic acids, and synth of oxindoles, 2671
Smiles rearrangement in benzothiazolyl β–hydroxyalkyl sulfones, 1175
steroidal ketoxime, with triflic anhydride to cyclized *N*–triflylenamine, 5071
Stevens [2,3] rearr in 1–methyl–1–phenacyl 1,2,3,6–tetrahydropyridinium salt, 2827
thermal Wolff, of bis(methoxycarbonyl)carbene, 995
thermally reversible oxy–Cope rearr, 319
triazolopyridinium ylids with DMAD, forming 2*H*–pyrrol–2–yl–pyrazolo[1,5–*a*]pyridines, 4977
tris–aza–Cope, *N*–cyano–*N*′–vinyl–(aryl–)hydrazines to (benz)imidazoles, 907
vinylcyclopropane rearr of 2–(2–methoxycyclopentenyl)cyclopropanecarboxyli c ester, 2871
vinylcyclopropane to cyclopentene, in synth antheridic acid precursor, 5025
[2,3]–sigmatropic – of 1,4–oxathian–2–one *S*–allylsulfonium enolate, 335
[2,3]–sigmatropic – of cyclic allylsulfonium ylids, 6159
[2,3]–sigmatropic, of allylic amine oxides to *O*–allylic hydroxylamines, 4481
[2,3]–Wittig – of alkenyloxyacetate ester, 5137
[2,3]–Wittig rearr of allyloxyacetates *via* Sn enolates, 4647
[3,3]–sigmatropic – of *N*–phenyl–*O*–acylhydroxylamine carbanions to *o*–aminophenylacetic acids, 2803
[3,3]–sigmatropic – of allylic trichloroacetimidoate, 5801
[3,3]–sigmatropic – of *O*–cinnamyl *S*–methyl xanthate in β–cyclodextrin complex, 7557

[3,3]–sigmatropic, of *N,N'*–diacylhydrazine mono–and di–enolates, 4517
[3.3]–sigmatropic shifts in double rearr of bis 6–(1–propenyl)–1,4–dioxan–2–one silyl enolate, 3957, 3961

Reduction

1,2–bis–t–butylsulfonyl alkenes, by Na/Hg, $Na_2S_2O_4$, SmI_2, 4579, 4583
alkynes to alkenes, and, with cyclization, of 1,6–diynes to 1,2–dimethylenecyclopentanes, by SmI_2, 5559
alkynes to alkenes, by SmI_2/ROH/transition metal catalyst, 5559
alkynes to *cis*–alkenes, using Rieke zinc, 299
amides, anhydrides, esters to alcohols, oximes to amines, by SmI_2/base, 3511
azido–nucleosides, – to amino– by Bu_3SnH/AIBN, 6293
β–iodoalkenoic esters to β–iodoenals using DIBAL, 5329
borane, of α–hydroxyoxime *O*–benzyl ethers to amino–alcohols, 711
borohydride decyanation of α–cyano–amido sugars, 1371
borohydride, of mixed anhydrides in β–aminoalcohol synth, 923
borohydride/Pd(0) for C(4)–O hydrogenolysis of steroidal 5–ene–3β,4β–diol cyclic carbonate, 6081
C–CO_2Me and *N*–CO_2Bn, both to –CH_3, 3643
chloro– to hydrido–phosphorane using Bu_3SnH, 763
cleavage of lactone ring in α–santonin by PhS^-, $PhSe^-$, 3413
cyanoborohydride – in synth polycyclic piperidine deriv, 483
cyclic ketals to β/γ–hydroxyalkyl ethers by $BH_3.SMe_2$ and TMS–triflate, 1095
dehalogenation of chlorocarbons using tetraethylene glycol, BH_4^- and KOH, 2727
desulfonylation of alkyl sulfones by SmI_2/$(Me_2N)_3PO$, 1949
diastereosel α–keto– to α–hydroxyacid, *chiro*–inositol deriv as chiral auxiliary, 1335
DIBAL – of β–ketosulfoxide, diastereoselective, 509
diborane–THF, α–chloroacetamides to β–chloroethylamines, 4853
dihydro–dideacetoxylation of sugar lactone 2,3–diacetates by H_2/Pt/Et_3N, 4963
directed homogeneous – [$ClRhPPh_3)_3/H_2$ and by intramol di–t–butylsilyloxy deriv] of dihydronaphthalene to tetralin deriv, 2083
electrochemical pinacol–type cross–coupling *O*–methyl oximes with ketones, 525
enantiosel –, 2–phenylthio–cycloalkanones, –cycloalkenones, by baker's yeast, 399
enantiosel boron hydride – acetylmesitylene, trifluoroacetylmesitylene, 6835
esters to alcohols, sonication with $ZnBH_4$, 3243
hydrogenation of olefins, aldehydes, α–ketoesters, (μ–hydridodichromium decacarbonyl)$^-$ catalysis, 1199
intramol pinacol reduction of γ–oxy–δ–ketoaldehydes by SmI_2, stereochem, 5097
ketones by *N*–dodecyl–*N*–methylephedrenium borohydride on montmorillonite, 1247
L–tartaric ester cyclic sulfites, synth D–malates, 3155
nitroalkenes by $Zn(BH_4)_2$ in DME to oximes or nitroalkanes, 3579
nitroarenes to acetanilides, Ru–catalysed reductive acylation by AcOH and Me formate, 4917
of allylic oxy–compounds by vinyl copper reagents, 4969
one–electron – of $RR'P(OR'').BH_3$, 3371, and of $RR'PO(OR'')$, 3375
phosphite mono–deoxygenation of perepoxide, 863
phosphorus(V)–Cl to P–H by SmI_2, stereochem, 2493
primary amides to aldehydes with Li bis– or tris–(dialkylamino)aluminum hydrides, 6903
reduction of C=C in β–(2–furyl)vinyl ketones by Mg/EtOH, 4183
reductive de(phenylselenation) of α–phenylseleno–α–arylacetic esters, 5741
sodium amalgam – of α–(perfluoroacyl)alkyl triphenylphosphonium salts, enolates from, 4953
stereosel hydroboration of acyclic enones, (*Z*)–vinyloxyboranes, 1229
stereoselective ketone – by poly–dibenzo–18–crown–6–formaldehyde borohydride complex, 2157
stereoselectivity of – of β–ketoesters by heat–treated baker's yeast, 2927
tele–meta– hydro–dehalogenation of halogenoarenechromium tricarbonyl complexes by $Et_3BH(D)Cl$, 6703
trichloromethyl to methyl, tritium labelling, 1031
vic–diols to olefins *via vic*–dixanthates using Ph_2SiH_2, 2569
see also Hydrogenation

Regiochemistry

1–trimethylsilyl 1–α–hydroxyalkyl oxiranes, azidolysis, 679
intramol Diels–Alder reactions, silaketal–tethered, 1145
isotopic study of elimination from 3–methoxycyclohexene in gas–phase, 4077
propargyl Claisen rearr, benzofuran or chromene from, 811

Regiocontrol

selective *N*(α or β)–acylation of hydrazinoacetic ester, 2765
substituent effects in cyclization of cycloalkenols to tetrahydropyrans, oxepanes, oxocanes *via* episulfonium ions, 2261
twistane *vs* isotwistanes in intramol Diels–Alder cycloaddns, effect of Et_2AlCl, 4439

Regioselection

action of electrophiles on biphenyl bis(chromium tricarbonyl) dianion, 3341
addition of tributyltin–copper lithium reagents to terminal C of prop–2–ynal, but–3–ynal, 2–methylbut–3–ynal diethylacetals, 6333, 6337
alkylation of chiral α–silylcinnamyl carbanion, 1847
allylic acetates with phenylthio–group adjacent, regiosel reaction with silyl enol ethers, 4311
dimethylvinylidenecarbene addn to terpene alcohol double bonds, 5547
effect of TlOAc on regioselectivity of Heck reaction with vinyl ether, 1753
Lewis–acid catalysed addn 3,4–dihydro–6–methoxy–1–vinylnaphthalene to 3–methylcyclopent–3–ene–1,2–dione, 3357
Mitsonobu dehydration of hydroxycyclohexanes, 1209
ortho–selectivity in acetanilide nitration by NO_2/O_3, 6591
reaction of boranes with alkynes, monomeric diarylborane, 6239
ring–opening of aziridine *N*–Boc deriv by Cu–modified phenyl Grignard, 1897
selective *para*–dechlorination of trichloro–diacetanilides, 7191
singlet oxygen reaction with αβ–unsat esters, site selectivity, perepoxide intermediate, 7321

syn–anti–, in cycloaddn cholesteric fumarate esters to 2,6–dialkoxyanthracenes, 1729

Regiospecificity
(*S,S*)–1,2;3,4–diepoxybutane, synth, chiral glycols from, 883
acetal cleavage to enol ether, stereochem and mech, ^{13}C labelling, 7223
acetal cleavage to enol –, stereochem and mech, ^{13}C labelling, 7223
acylation of trienomycinol, triol–lactam, 1627
alkylation of 6–amino–8–purinone derivs, 97
cycloaddns of 1,2,4–triazoline–3,5–diones with vitamin A derivs, 2379
photocycloaddn of olefins to 1–phenylpenta–1,3–diyne, 6719

Reissert compounds
1,3–dibenzoyl–2–cyano–2,3–dihydro–1*H*–benzimidazole, synth, x–ray, reactions, 2997

Resins
affinity –, phospho–(1,3,4,5)–inositol–linked, 1623

Resolution
(*E*)–1–trialkylsilyl–1–buten–3–ols, using lipase, 4085
(*E,Z*)–1,2,5–triphenylphospholane 1–oxide, on chiral column, 5089
1,1′–binaphthyl–2,2′–bis(dicyclohexylphosphine) dioxide, and 5,5′,6,6′,7,7′,8,8′–octahydro deriv, 7283
2,2,2–trifluoro–1–phenylethylamine, as L–tartrate, 987
2–hydroxyalkanes, by oxidation with fatty alcohol oxidase from yeast, 2009
2–hydroxytetracosanoic acid, acetylation by vinyl acetate and *Pseudomonas* lipase, 7063
3–t–butyl–2,3–dihydro–1,2–benzisothiazole 1,1–dioxide, use as chiral auxiliary, 4893
4–acetoxy–3–methyl–2–(2′–propynyl)–2–cyclopenten one, using lipase, 5119
aliphatic alcohols, (–)–1–octen–3–ol, using lipase and vinyl laurate, 7021
chiral recognition in naproxen complexation with bis–(1,1′–binaphthyl) cyclophanes, 6276
cis– and *trans*–2,4–dicarboxylic acids, analytical – *N*–(*S*)–2–acetoxypropanoyl di–isopropyl ester, 3049
kinetic – by enantiosel decomp of 2,3–epoxy alcohols by chiral Ti(IV) catalyst, 3547
kinetic resolution of β–hydroxyalkyl diphenyl phosphines by rabbit gastric lipase, 5959
kinetic, of α–furfuryl sulfonamides, 1467
kinetic, of epoxy–nitriles, 2045
kinetic, of hydroxyalkyl enones under Sharpless epoxidation conditions, 2687
of 2–pyridyl *p*–tolyl sulfoxide by chiral sulfinylation and desulfinylation, 2947
optical – by hplc of inter–ring bridged triarylboranes and congeners, 6363
optical – of acyloin di–ester as camphanoyl ester, 5535
optical – of allenes by chromatography on cellulose triacetate, 7225
optical – of amines by distillation from chiral acid, 7325
phenyl γ–hydroxy–αβ–unsaturated alkyl sulfones, by lipase, 5159
polymer–attached pyridoxal deriv, aminoacid racemization by, 7401
trans–1,2–diamino–1,2–dimethylcyclohexane, *via* mandelate salt, 1711

Resonance
steric inhibition in *ortho*–methyl cumyl cations, 871

Retinoids
oxidation by MnO_2 of retinal, 20–trifluoro–, nor–retinal products, 1933
retinols, synth (9Z,11Z)–isomer, 4115; synth (7Z)– and (7Z,11Z)–isomers, 4117

Rhodium and compounds
(–)–Rh(I)–phenyl–CAPP complex for asymm hydrogenation of itaconic acids, 3671
catalysis of intramol cyclizations of diazoketone to enyne groups by Rh_2OAc_4, 4103
catalyst for hydrocarbonylation of *N*–allyl– and –homoallyl–*o*–phenylenediamines, 2499
enediones by $[RhCl(C_2H_4)_2]_2$–$SnCl_2$–catalysed reaction vinyl ketones with allyl acetone, 1077
$Rh_2(OAc)_4$ catalyst for inter– and intra–mol
tetra–2–(1,1′–binaphthyl)porphyrin–Rh–I for catalytic cyclopropanation of olefins, 2445

Ring transformations
3–(3–oxobutyl)cyclopentanone, acid–catalysed – to 4–methylcyclohex–3–eneacetic acid derivs, 5581
imidazo[4,5–*d*]–1,2,3–triazin–4–one to pyrido[1,2–*a*]purin–10–one, 5693

Ruthenium and compds
catalyst $Cp(Ph_3P)_2RuCl$ for isomn allylic alcohols to satd aldehydes, ketones, 3039
complex $Ru_3(CO)_{12}/R_3P$, for olefin hydroformylation–reduction, 505
oxidative cleavage of imidazole rings by Ru(VIII), 5615
ruthenium bis–terpyridine complex, two bound to porphyrin system, 5977
tri— dodecacarbonyl, catalyst for reductive acylation of nitroarenes, 4917

Salt effects
in conjugate addn ethyl–Li to acylketene acetals, 465

Samarium and compds
allyl– complexes, synth, nucleophilic reactivity, 629
di–iodide in cyclopropanol synth from β–bromosuccinic ester and Grignard reagent, 7691
di–iodide in HMPA, desulfonylation of alkyl sulfones by, 1949
di–iodide, for synth 1,2–diol diacetates from aldehydes or ketones and $BrCH_2OCOMe$, 2433
di–iodide, reductive dimerization of αβ–unsat esters, tert amides, 6557
di–iodide, reductive ketone–alkyne coupling by, 4921
di–iodide, with Co, Fe and Ni catalysts and alcohols, for reduction of alkynes to alkenes, 5559
diiodide for stereocontrolled pinacol cyclization 1,5/6–dials, 1125
diiodide, aryl radical cyclization promoter, 1737
diiodide, for reduction P(V)–Cl to P–H, 2493
diiodide, for reductive coupling of *O*–benzylformaldoxime to C=O, 3555
diiodide, reduction of nitroalkanes to hydroxylamines and amines, 1699
intramol pinacol reduction by SmI_2, Tishchenko lactone formation by SmI_2OBu^t, in γ–oxy–δ–ketoaldehydes, stereochem, 5097
SmI_2–promoted intramol Reformatsky reaction forming 8–15–membered β–hydroxycycloalkanecarboxylates, 6371

Sapogenins
gymnemasaponins, antisweet principles from *Gymnema sylvestre*, 789

jujubasaponins I–III, antisweet glycosides from *Zizyphus jujuba*, revision of structure of ziziphin, 7059

Schiff bases
lysine–16–hydroxyestrone adduct, Heyns rearr, 1213
protective group in aminoacid ester manipulation, 2277
see also Imines

Selenium and compds
2,5–bis(diarylmethylene)–2,5–dihydroselenophene, synth, 4313
4–oxy–2–phenylselenocyclopent–2–en–1–one, synth and prostaglandin intermed from, 1325
α–phenylseleno–α–arylacetic ester, synth, reductive de(arylselenation), 5741
alkenyl α–methylseleno–benzyl lithium, synth 1–arylbicyclo[n.1.0]alkanes from, 417
allyl selenoxides in drimane synthesis, 4765
benzeneseleninic anhydride, hydroxylation with double bond migration, 4655
bis(trimethylsilylethoxymethyl)diselenide, selenylation of lithiated tetrachalcogeno–fulvalenes by, 2741
dibenzoselenophene, 5,5–diphenyl–Se(IV)–, 3179
dimethyl 1,3–diselenane–2–phosphonate, synth, conformation, 4189
dinaphtho[1,8–*bc*;1′,8′–*fg*][1,5]diselenocin, synth, oxidative transannular bonding, 4345
diphenyl diselenide, with Bu_3P for carboxy activation in peptide synth, 255
electro–induced $S_{RN}1$ of 2,6–di–t–butyl phenoxide into *p*–chlorophenyl sulfones, 6705
hydrogen selenide, trapping of 1,4–diradical photocyclization intermediates by, 4107
olefin synth from β–hydroxysulfone selenobenzoates, 2703
perfluoroalkyl–selenation of olefins, 375
phenylseleno–dodecahedrane, synth, use, 5259
phenylselenoglycosides, use as glycosyl donors, 4435
seleniranes, intermediates in (*Z*)–olefin synth from ketones, 4385
selenoacetals, stereochemistry of RSe/Li exchange and allylation reactions, 3231
selenoacetals, unsaturated, acid–catalysed cyclization, 105
selenoaldehydes with e–w groups, from α–dichlorides and selenide dianion, trapping by dienes, 7427
selenophenolate anion for reductive cleavage α–santonin lactone ring, 3413
selenoxomalonic ester, other selones, generation, trapping as diene adducts, 7389
SeO_2/pyridine *N*–oxide for 1β–hydroxylation of vitamin D_3, 6057
tetraselenastannolane, 5,5–diaryl–, synth, x–ray, 6151
triarylselenonium salts, ^{77}Se, ^{1}H, ^{13}C nmr detection of tetraarylselenuranes, 3179

Selenium halogen compds
chlorination by phenylselenyl chloride, 7079
phenylselenyl chloride in synthesis *cis*–2,5–disubst tetrahydrofurans, 4015
phenylselenyl chloride for formation of 9–cyclopentyl purine derivs, 6341
phenylselenyl mono– and trihalides, halogenation of Ni–porphyrin complexes by, 5015
selenenylation of uracils by ArSeCl/Ag(I), 2401

Shikimic acid and analogs
5–deoxy– and 5–deoxy–5–amino— 3–phosphate, ESPSPS inhibitors, 2589
cyathostemmine, subst 1,2,4a,9a–tetrahydroxanthene, struct, 6117
synth, and of phosphonate analogue, from D–lyxose 5–aldehyde, 4111

Silicon compds
(α–silylalkyl)stannanes, synth, use in Petersen olefination, 3285
(*E*)–1–trialkylsilyl–1–buten–3–ols, resolution using lipases, 4085
(tributylstannyl)trimethylsilane, proposed hypervalent Si in reaction with R_4NX and vinylhalo–ketones, 6139
1,1,1,3,3,3–hexamethyltrisilane, radical cleavage of 1,3–oxathiolanes, thiazolidines by, 2853
1,2–dialkylvinylsilanes, from α–epoxysilanes with RLi, stereochem, 3457
1,2–disilet–3–ene, 3–phenyl–1,1,2,2–tetramesityl–, oxygenation, silicon–oxygen heterocycles, 6605
1–(2–oxiranyl)silacyclobutanes, base–induced rearr to silacyclopentanes, 4545
1–(α–iodoalkyl)silacyclobutanes, ring expansion to silacyclopentanes, 1,4–diols by oxidative cleavage, 6383
1–phenylsulfonyl–1–trimethylsilylmethylcycloprop ane, methylenecyclopropane from, 531
1–trimethylsilyl 1–α–hydroxyalkyl oxiranes, azidolysis, 679
2,4,6–tris[bis(trimethylsilylmethyl)]phenyl lithium, 1,3–shift of trimethylsilyl group in, 2049
2–(trialkylsilyloxy)–allylidenecyclopropanes, cycloaddns in synth of spiro[2.5]octan–5–ones, 3483
2–deoxy–1–*O*–t–butyldimethylsilyl sugars as glycosyl donors, 2079
2–lithio–2–triphenylsilyloxirane, alkylation and deoxygenation by trialkylalanes, 2783
2–methyl–1–silylallyl carbanions, regioselective alkylation, 2879
2–silyloxy–1,3–dienes, cycloaddn to βγ–unsat α–ketoacids, 1765
2–trimethylsilyloxy–1,3–cyclohexadien–5–one cyclic acetal, synth, Diels–Alder adducts, 4011
3,6–dihydro–2–phenyl–2–trimethylsilyl–2*H*–thiopyran, reactivity, 815
4–acetoxy–1–((*Z*)–crotyldimethylsilyl)–2–azetidinone, rearr of to 4–(α–methylallyl) deriv, 2143
4–silylmethyl–β–lactams, by CSI cycloaddn to allylsilanes, 2265
α–hydroxy–β,β–dimesitylvinyl silanes, rearr to dimesitylacetylene with $SOCl_2$, 6391
α–t–butyldimethylsilyloxy *N*–trimethylsilyl–aldimines, stereochem of organo–MgX, –Li addn to, 2967
α–trimethylsilylallenyl aryl sulfones, with alkyl–Li and SO_2 forming thiophenes, 3867
α–trimethylsilylvinylcuprate addn to β–alkoxyaldehydes, 857
acyldimethylsilanes, hydrogenolysis to aldehydes, 457
acylsilanes with chirally subst Si atoms, diastereoselection of Grignard addn, chiral α–hydroxysilanes, 6801
acylsilanes, synth from acylthiopyridines and tristrimethylsilylalane, 4929
acylthiopyridines, synth from acylsilanes and tristrimethylsilylalane, 4929
allenylsilanes, hydroboration, γ–(trimethylsilyl)allylboranes, diastereosel condn with aldehydes, 3029
allenylsilanes, reaction with benzyl alcohols giving dihydronaphthalenes and spiro–trienones, 2327
allyl silanes, from vinyl cuprates and XCH_2SiMe_3, 609
allyl trimethyl silane, BF_3–mediated reaction with cross–conjugated pentadienyliron tricarbonyl complexes, 7047, 7051
allyldimethylsilylcyclopropanes, into cyclopropanols, 7513
allylsilanes as carbanion traps in tetralol allylation, 2087

allylsilanes with asymm ether function, divergent stereocontrol in reaction with aldehydes, 2383
allylsilanes, regiosel synths *via* sulfones, 1149
allylsilanes, synth by cross–coupling of stannyl derivs, 4341
allyltrimethylsilane in silyl–modified Sakurai reactions, 4779
anodic cyclization of dienes with allylic silane groups, 2307
β–trimethylsilylalkyl sulfone anions, reaction with epoxides, 1073
benzoyltrimethylsilane, reaction with perfluoroalkyl Grignards, lithiums, 83
benzoyltrimethylsilane, photo–rearr, trapping of carbene, 4443
benzylic, allylic, silyl ethers, oxidation to C=O by DDQ under UV irradiation, 3993
bis(trimethylsilylethoxymethyl)diselenide, selenenylation of lithio–compds by, 2741
bistrimethylsilyl peroxide and metal halides for synth of 1–halo–, 1–pseudohalo–1–alkynes, 2169
bistrimethylsilylacetamide, for HCl interception in Friedel–Crafts alkylation control, 6171
buta–2,3–dienyltrimethylsilane, reaction with acetals, aldehydes, 4509
butenolides, α–trimethylsilyl–, in chiral synth homoallyl alcohols, 371
chiral α–silylcinnamyl carbanion, regio– and stereo–selective alkylation, 1847
chiral allylsilanes, acyclic, reaction with electrophiles, 1583
cyclization allylic trimethylsilyl aldehydo–esters to fused α–methylene–γ–butyrolactones, 387
diphenylsilane, olefin formation from *vic*–dixanthates, 2569
divergent – in reaction of aldehydes with allylsilanes with asymm ether function, 2383
from trimethylsilyl arenes, with iodosyl triflate forming diaryliodonium triflates, 7497
hydrosilylation of carbonyls catalysed by montmorillonites, hydroxyapatites, 4741
lithium t–butyldimethylsilylthiolate, generation, use, 2189
meso–syn–1,9–bistrimethylsilylnona–1,8–diyne–3,5 ,7–triol, 2219
methyl phenyl and methyl octyl bis(hydroxymethyl) silane, synth, chiral monoacylation using lipases, 6325
N,N–bistrimethylsilyl (*E*)–3–tributylstannylallylamine, synth, use, 4121
N–(α–silylbenzyl)amides, Si–shift and azomethine ylid generation, 5813
N–trimethylsilyl–2–pyrrolines, by rearrangement of *N*–trimethylsilylmethyl αβ–unsat imines, 5093
ω–bromoacyl trialkylsilanes, cyclization of by Bu_3SnH/AIBN, 3515
perfluoroalkylsilanes, Cu(I)–catalysed aryl, alkyl, halide replacement by CF_3, 91
radical addn with cyclization to 7–oxabicyclo[2.2.1]hept–5–en–2–*endo*–ol silyl ketene acetal deriv, 3491
silaketal group as tether for intramol Diels–Alder reaction, 1145
silyl enol ethers, C–alkylation using tetrabutylammonium difluorotriphenylstannate as fluoride substitute, 7381
silyl enol ethers, displacement of acetoxy– from allylic acetates with adjacent phenylthio–group, 4311
silyl enol ethers, radical pathway in electrophilic fluorination contra–indicated, 3815
silyl ethers by Mitsunobu silylation of phenols and alcohols, 7159
silyl ketene acetals in synth (*E*)–9–oxodec–2–enoic acid, honey bee queen substance, 7253
silyl–carbonylation of propargylamine derivs, Rh–catalysed, α–silylmethylene–β–lactams, 7431
t–butyldimethylsilylated *S*–, *O*–, and *N*–nucleophiles, displacement of 4–sulfinyl group in azetidinones, 2375
triethylsilane/alkyl chloroformates for reductive acylation of oximes, 4139
triethylsilyl hydrotrioxide, 1,2,4–trioxane synth using, 4235
trifluoroethanolysis of EtO-$SiMe_2Ph$, mechanism, 307
trimethylsilyl triflate, for pyridiniosilylation of enals and enones, α–methoxyalkylation of enones, 2043
trimethylsilyl triflate, acetal cleavage by, 7219, mech of, 7223
trimethylsilyl vinyl ketone, 1,4–cycloaddn to thiones, 4*H*–1,3–oxathiins, 2971
trimethylsilyl–acetonitrile, ethyl TMS–acetate, Reformatsky reactions using, 1179
trimethylsilylketene, stability, reactivity, 847
trimethylsilylmethyl magnesium chloride, addn to methyl chlorodifluoroacetate, 1069
tristrimethylsilylalane, vinylsilanes from, 855
tristrimethylsilylsilane, radical formation from thiazolidines using, 6265
tristrimethylsilylsilane, radical 9,10–B–ring cleavage of steroidal 3–oxo–1,4–dienes, 7247

Silicon halogen compds

4–biphenylyl–dimethyl– and –diisopropyl–chlorosilane, for terminal alkyne protection and formn crystalline derivs, 3787
di–isopropyl–$SiCl_2$, for tethering alcohol groups prior to radical cyclization, 573
di–t–butylchlorosilyltriflate, 1145
dichlorodiphenylsilane, for determin of enantimeric purity of alcohols, 3651
$ISiCl_3$–promoted reaction of aromatic aldehydes with acrylonitrile, 5421
t–Butyldimethylsilyl chloride, promoter of nitroaldol reaction, 3225
tetrachloride and EtOH for trimer–condensation –CO–CH_2– compounds to benzenes, 4175
tetraisopropyldisiloxane dichloride, double *O*–protection in sugar by, 4831
trichloroiodosilane, synth secondary amides from nitriles and aldehydes using, 1825
trimethylchlorosilane, in modified Knoevenagel condn αβ–unsat aldehydes with enolates, 1791

Solid–supported reactions

see Polymer support, Resins, Supported reagents

Solvents and solvent effects

alkylation of calix[4]arenes, conformation, 2675
calcs on cycloaddn methyl acrylate to 2,6–bissilyloxy–3,4–dihydropyridine, 1401
cyclic *vs* acyclic solvents in lipase–catalysed transacetylation, 4941
ethyl 4–methoxyphenyl–α–pentafluorobenzoyloxyacetate , in 50/50 CF_3CH_2OH/H_2O, carbocation lifetime extended by ethoxycarbonyl group, 4255
in epoxy–aldehyde formation by photosensitised oxygenation of phytol, 6551
in synth methylenecyclopropane deriv, 531
polarity of in photoinduced electron transfer of anthracene derivs, 421, 425
singlet oxygen reaction with αβ–unsat esters, solvent effects on site selectivity, 7321

THF and trace H_2O for improved cleavage of cyclic sulfones by K dispersion, 3551
two–phase Pd–catalysed allylic substitution, 2025
water *vs* non–aqueous media in cycloaddn of glyoxylic acid to cyclopenta–, –hexa–dienes, 7529

Solvolysis
1–bromobicyclo[1.1.1]pentanes, 3–subst, with ring–cleavage, kinetics, 5945
2,4–dinitrophenyl sulfate, in mixed solvent systems and in methylated β–cyclodextrin, 2205
p–subst α,α–di–t–butylbenzyl *p*–nitrobenzoates in 50% aq EtOH, resonance effect in, 2929
sterically hindered benzylic tosylates, rates of, 1805

Spiro compds
1–oxaspiro[5.5]undec–4–en–8–ones, stereosel synth of oscillatoxin D fragment, 3937
2,2′–spirobi(tetrahydropyran) derivs in synth open–chain milbemycin analogs, 1719
2–amino–*C*–glucoside spiroacetals, 5021
2–isoxazoline–5–spirocyclopropane deriv in synth of 10–azatestosterone, 6395
2–methoxy–1,7–dioxaspiro[5.5]undec–3–en–5–one, stereochem of $Me_2CuCNLi_2$ addn, 4081
2–vinyl–1–oxaspirohexanes, Pd–catalysed ring expansion to 2–ethylidenecyclopentanones, 3395
2*H*–imidazo[4,5–*b*]pyridine–2–spiro–cyclohexane, 6–subst pyridine–2,3–diamines from, 6503
4–methylcyclohex–3–enespiro–3′–(1,2–dithiolan–5–one), and *S*(2)–oxide, 6625
5*H*–dibenzo[*c,f*]azonine, 6,7,8,13–tetrahydro–6,13–methano–10,11–dimethox y–14–spiro–(3–cyclohexene)–, 619
6,1′–propanouridine, spiro–bridged nucleoside, 4549
α–chloro–spiro–β–lactones, synth and rearr to fused butenolides, 6501
acetals, 1,6–dioxaspiro[5.5]undec–4–enes, stereosel hydroxylation, 4049
chiral acetals from 1,3,5–pentanetriols and (–)–menthone, 1219
cyclohexadiene–spiro–tetrahydroquinolines from *p*–nitrobenzoyloxyethyl–η⁵–cyclohexadienyl irontricarbonyl and arylamines, 1953
cyclohexanone, α–spiro–cyclohexene fusion, 589
cyclohexene–3–spiro–(4–butenolides, 3–cyclopentanones), *via* di–Grignard intermed, 5861
dioxaspiro[2.4]nonanes, exocyclic glycal oxides, 4035
epoxides from fructopyranose, phosphonic acids from, 1237
indoline–3–spiro–maleimide, approach to alkaloid synth, 6129
methylenespiro[m,n]–alkanes and –alkanones, synth from 1,2–dimethylene–Mg complexes, 5269
oxepan–2–spiro–2′–(tetrahydrofuran), 7–hydroxymethyl–, formn, struct by x–ray, 2253
piperidine–2–spiro–cyclohexane, synth perhydrohistrionicotoxin analog, 2485
piperidine–3–spiro–cyclohexan–2′–ol, isonitramine synth, 1577
pyrrolo[3,2–*g*]quinoline–5–spiro–cyclohexa–2′,5′–dien–4′–one deriv, precursor to discorhabdin C, 2035
ring expansion of vinyl spiro–oxiranes, tin–, thiyl–radical mediated, 6575
spiro–3–(indol–2–ones), cycloadducts from isatin–derived ylids and acrylic ester, 5417
spiro–ketals, oxa–spirolactones, synth by $Mn(OAc)_3$–promoted addns of β–diketones, β–ketoesters, to cyclic enol ethers, 7107
spiro–oxiranes derived from macrolide FK506, 7039
spirocyclization in intramol Heck reactions, 687
spirocyclopropyl aldopyranoses, synth, 449
spiro[2.5]octan–5–ones, synth by cycloaddns of 2–(trialkylsilyloxy)–allylidenecyclopropanes, 3483
spiro[4.5]deca–3,6,9–trien–8–ones, from benzyl alcohols and allenylsilane, 2327
spiro[4.5]decan–7–ones, synth from bicyclo[4.1.0]heptan–2–ones, 6211
spiro[5.5]undeca–2,4–dien–1–ones, spiro[[4.5]deca–7,9–dien–6–ones, by electrochem oxidation of alk–4–enylphenols, 4973
tetrahydropyran–2–spirocyclohexane, 3–phenylthio–, 3425

Squalene
26– and 29–hydroxy–2,3–oxido–, hydroxylanosterols from, using oxidosqualene–lanosterol cyclase, 6843

Stereochemistry
assignment of diastereomeric 2–methyl–5–phenylthiomethylnon–3–ene–1,5–diols by pmr, 7123
by nmr, of reduced naphtho[1,8–*bc*]pyrans, 1183
Diels–Alder addn 1,4–diacetoxybutadiene to methyl acrylate, 963
double bond config in Pd(0)–catalyzed hydroxyprenylation, 2193
inner/outer sphere S_N reactions, 1595
intramol Diels–Alder reactions, silaketal–tethered, 1145
mycotrienins I and II, relative and absolute stereochemistry, 841
reduction of P(V)–Cl compounds to P–H by SmI_2, 2493
retention of in Mitsunobu reaction of *trans*–3–(2–hydroxycyclohexyl)indole, 3779
thermal ring–opening of 3,4–*cis*–disubst cyclobutenes, 2953

Stereocontrol
addition of alkoxytitanium homoenolates to chiral *N,N*–dibenzyl–α–aminoaldehydes, 233, 1867, and α–(t–butoxycarbonylamino)aldehydes, 1867
addition of allylboronic esters to α–hydroxyketones, 1945
Baldwin's rules overcome by Thorpe–Ingold effect in competitive cyclization, 5409
cyclization of allyl–tin aldehydes, BF_3–catalysed, diastereosel of ring fusion, 7069
cyclopropanation of homoallylic alcohols, 2–cyclopropyl cyclopentanol synth, 5733
directed homogeneous reduction $[ClRhPPh_3)_3/H_2$ and by intramol di–t–butylsilyloxy deriv] of dihydronaphthalene to tetralin deriv, 2083
epoxidation of 4–hydroxycyclohexene deriv, 1707
metalla–Claisen rearrangement of allyl vinyl zincs, 5969, 5973
oxidation of α–fluorosulfides, stereoelectronic control in, 1463
pinacol cyclization 1,5/6–dials by SmI_2, *cis*–1,2–diols, 1125
synth andrimid, diamide–succinimide, 4393
synth L–cladinose, 3–*epi*–L–cladinose *via* 2,6–anhydro–2–thiohexose, 4139
synth of 4–(α–methylallyl)–2— deriv, by rearr of 4–acetoxy–1–((*Z*)–crotyldimethylsilyl)–2—, 2143
synth of subunits of calyculin, spiroketal C14–C25, 4855; oxazole C26–C37 and diol C9–C13 sections, 4859

synth reduced naphtho[1,8–*bc*]pyrans by intramol Diels–Alder reaction, 1183
synthesis (±)–6,7–dideoxyforskolin, and 13–*epi* analog, diterpenoids, 4027
synthesis *cis*–2,5–disubst tetrahydrofurans, 4015

Stereoselection

3,10–perylenequinone pigments from *Cladosporium* spp, synth, 859
addition of alkyllithium reagents to 2–(1–naphthyl)–2–oxazolines, 2095
addition of crotylboronates to α–ketoacids, 5677
addition catecholborane to 1–phenyl–1,3–butadiene, with Rh–phosphine catalysts, 3387
aldol reactions of β–oxoboronate esters, 1507
alkylation of chiral α–silylcinnamyl carbanion, 1847
borane reduction α–hydroxyoxime *O*–benzyl ethers, 711
borohydride reduction of α–methyl–β–keto–esters, –amides, effect of $ZnCl_2$, $CaCl_2$, $MnCl_2$ on stereochem, 6147
chiral allylsilanes, reaction with electrophiles, 1583
cis–3–subst 4–formylazetidin–2–one synth, 803
cis–dihydroxylation of cyclobutenes by OsO_4, 2659
Claisen rearr of allylic ester enolate in synth of trisubst olefin, 2909
condensation imines with α–mercapto–acids, –esters, thiazolidin–4–ones from, 383
cyclohexene, synth by intramol cycloaddn, 4095
dihydroxylation of unsat spiroacetals, 4049
endo–exo ratios in addn of methyl acrylate to 2,6–bissilyloxy–3,4–dihydropyridine, 1401
endo–exo– in cycloaddns of 3–alkoxy/acetoxy–quadricyclanes, 1885
epoxidation of 3–hydroxy–4–(diphenylphosphinyl) alk–1–enes, PhS^- ring opening and double bond formation, alk–3–ene–1,5–diols, 7123
Evans aldol reaction of α–aminoaldehydes, dependence of stereochem on reactant proportions, 7287
Friedel–Crafts α–(phenylthio)–alkenylation of benzenoid compounds, 6563
high *E*–selectivity in Wittig synth 4–alkenyloxazoles, 1609
intramol cycloaddn undeca–1,8,10–trien–3–one under $LiBF_4$ catalysis, 1549
ketone reductions by poly–dibenzo–18–crown–6–formaldehyde borohydride complex, 2157
organocuprate addn to 1–methylbicyclo[4.2.0]oct–3–en–5–one, 447
oxidation of 2–hydroxyalkanes by fatty alcohol oxidase from yeast, 2009
Pd–catalysed diene, enyne cyclization on carbohydrate templates, 2161
radical addn to αβ–unsaturated amides, 707
reactions of organo–Li, –Mg reagents with 2,3–*erythro*–tetro–, pento–, hexo–furanose acetonides, 5143
reduction by DIBAL–H of alkynyl β–hydroxyalkyl ketones, 2219, 2223
stereochem of addn of mono–iodo–, bromo–carbenes/oids to C_5–C_8, C_{10}, C_{12} cyclo–olefins, 1,3– and 1,5–cyclooctadienes, 6105
stereoselective radical reduction and halogen substitution in β–alkoxy–α–haloesters, 27
stereoselectivity of 3–fluoro–β–lactam synth by ketene and enolate–imine cycloaddn, 5461
synth 5–amino–4–hydroxy–6–phenylhexanoic acid from dideoxy–D–glucose, 1897
synth dolastatin 10, sea hare pentapeptide, 931
synth of (2*R*,4*S*)–4–amino–2–methylpentanamide derivs, 5749
synthesis 9–silyloxy–1–oxaspiro[5.5]undec–4–en–8–ones, fragment of oscillatoxin D, 3937
Δ^1–octalin, synth by intramol cycloaddn, 4091
see also Diastereoselection

Stereospecificity

epoxidation of 5,6–double bond of vitamin D_3, 6057
hydrostannylation of acetylenes, selectively *cis* or *trans*, in trisubst olefin synth, 7535
one–electron reduction of $RR'P(OR'').BH_3$, 3371, and of $RR'PO(OR'')$, 3375
Pictet–Spengler reactions forming tetrahydro–β–carbolines, 175
synth (*E*)– and (*Z*)–2–iodobut–2–enol, 1695
synth and reduction of piperidine–2,5–dione deriv, prepn of dipeptide isostere, 3623
synth and uses of 1,3–dienyl–2–boronic esters, 3655
synth conduramine A–1, dihydroconduramine A–1, MeCO.NO cycloaddn to cyclohexadienediols, 6077

Steric effets

hindered cumyl cations, chemical, nmr effects, 871
mesityl group rotation in 2,2–dimesityl–1–trimethylsilylethenol, 1233
meso–tetrakis–[2,6–bis(benzyloxy)phenyl]porphyrin , spectra, 1703
monomeric character and reactivity of bis(2,4,6–triisopropylphenyl)borane, 6239
solvolysis rates of sterically hindered benzylic tosylates, 1805
steric compression–assisted reactions, dioxygen loss from α–hydroperoxy–azo compounds, 4955
theoretical calc of stereoisomeric BF_3–aldehyde complexes, 2867
Thorpe–Ingold effect in competitive 5– *vs* 6–membered cyclization with PhS migration, 5409

Steroids and sterols

(±)–14β–hydroxyestrone derivs, *via* nitroalkene chemistry, 623
(±)–$\Delta^{9(11)}$–19–nor–10–azatestosterone, synth *via* cyclopropane–spiro–isoxazoline, 6395
1,25–dihydroxy–vitamin D_3, synth *via* enantiosel cyclopropyl ring synth and opening, 2339, 2343
11–azasteroid ring system, synth from aromatic amines, formaldehyde and cyclopentadiene, 7099
15–oxa– C–aromatic steroid system, synth by Dötz annulation and Mitsunobu cyclization, 7759
16–oxo–17–*N*ε–lysinyl deriv by Heyns rearrangement of 16–hydroxyestrone imine deriv, 1213
19– and 21–hydroxylanosterols from hydroxysqualene oxides using oxidosqualene–lanosterol cyclase, 6843
3–(leaving–group subst)–6–oxo–B–homo–5–aza–steroids, rearr to A–nor analogs, 6517
3–methoxyestra–1,3,5(10),n–tetraenes, hydroxymethyl derivatization by Prins reaction, 743
3β–acetoxy–5α–cholest–8(14)en–15–one, side–chain oxidation by TFA/H_2O_2, 3923
4α–D–, –T–cholest–5–enes, from 5–ene–3β,4β–diol cyclic carbonate, 6081
α–nitroketones, trifluoroacetyl nitrate and enol acetates, 5353
angular trifluoromethyl systems, synth 19–trifluoro steroid from 2–(trifluoromethyl)acrylic ester, 4143
brassinolide, stereosel synth of side–chain, 6745
C(1)–C(11)–methano–homolog by [4+1]–cyclopentannulation, 3673
cholestanethiols from petroleum, 2955
cholestanol oxidation, cholestene epoxidation, by dioxiranes, 533

de–A,B–8β–benzyloxy–25–hydroxyergost–22–ene, intermed in synth of vitamin D_2 metabolites, 5397
ecdysteroids, synth of acetylenic inhibitor of biosynthesis of, 5171
homoallylic alcohol, sonochemical oxidation by Pr_4NRuO_4/*N*–methylmorpholine oxide to enediones, 3201
isoxazolidines, perhydro–1,3–oxazines, rearrangements, interconversions, 1–hydroxy–A–aromatic –, 5,10–seco–, 7605
jereisterol A and B, 8,9– and 8–14–secosteroids from sponge, 2149
ring–A–aromatic 9,10–secosteroids by radical induced cleavage of 3–oxo–1,4–dienes, 7247
synth by carbopalladation of allenes, 915
vinyl triflates, Pd–catalysed coupling to CO and alkynes, 6449
see also Vitamin D derivs

Strain
elongated bond in cyclobuta[*cd*][1]benzothiophene system, 1351
in a bridged [3.1.1]propellane, 2,4–dimethylmethano–2,4–didehydroadamantane, 1655
strained rings, opening adjacent to ketyl radical, 1315
tricyclo[4.1.0.$0^{2,7}$]heptane, reactions with dihalocarbenes and bromine, 4461

Structure activity
see Linear free energy relations

Substituent effects
cyclization of cycloalkenols to tetrahydropyrans, oxepanes, oxocanes *via* episulfonium ions, 2261
inductive substituent parameters relate to solvolysis rates of 3–subst 1–bromobicyclo[1.1.1]pentanes, 5945
polar substituent parameters for radicals, 4275

Substitution
2,2–bis(trifluoromethyl)ethene–1,1–dicarbonitrile, by addn into aromatics, enamines, enol ethers, 1871
acetanilide nitration by NO_2/O_3, *ortho*–selectivity, 6591
anchimeric assistance in TolSO– displacement by RS–, 2237
aromatic –, catalysis of phenol–diazonium salt coupling by cyclodextrins, 5231
aromatic substitution by CF_3 radicals from $CF_3SO_2^-$, 7525
electrophilic, of arenes by hydroxynitrilium ions, 3075
iododesilylation, NCS–mediated, in aryl system, 1553
methylation of fluorobenzene by $(CH_3)_2F^+$ in gas phase, 6775
nucleophilic – by enol ethers of $Fe(CO)_4$–complexed γ–acetoxycrotonates, 1141
nucleophilic – by halide ion of β–phenylsulfonylvinyl phenyliodonium salts, retention of configuration in, 7711
nucleophilic – $S_{RN}1$ of chloromethyl–trimethyl–*p*–benzoquinone, 4125
nucleophilic aromatic – in fluoroarene tricarbonylchromium complexes, and addn, of 2–lithio–2–methylpropionitrile, 6323
nucleophilic substn of *p*–fluorines in *meso*–tetrakis(pentafluorophenyl)porphyrin and its octabromo and metallo–derivs, 2893
piperidine with 2–chloro–7–nitroquinoxaline, 1311
$S_{RN}1$ nitronate alkylation, effect of ultrasound, 4709
$S_{RN}1$ of aryl halides by pyrrole anions, electrochemically induced, 6121
stereochemistry in SET S_N reactions, 1595
tele–meta– hydro–dehalogenation of halogenoarenechromium tricarbonyl complexes by $Et_3BH(D)Li$, 6703

Sulfenic acids and derivs
4′–nitrobenzenesulfenanilide, radical cation set mechanism in BF_3–catalysed sulfenylations by, 5621
allylic sulfenanilides, by ene reactions with thionitroso–arenes, 7459
benzenesulfenamides, synth, aminyl radicals by radical sulfenylation, 6441
p–toluenesulfenate elimination from 2–(*p*–toluenesulfinyl)aldehyde *N,N*–dimethylhydrazone, 2237
sulfenylation of uracils by ArSCl/Ag(I), 2401
triphenylmethylsulfenyl chloride, sulfur extrusion catalysed by thioketone, mech, 7633

Sulfides
2,3–epoxypropyl–, cathodic isomerisation to 3–hydroxyprop–1–enyl compds, 1099
α–(dimethylphosphoryloxy)vinyl phenyl –, synth by Perkow reaction, 3309
α–fluoro–, stereochemistry of sulfoxide formn, 1463
oxidation to sulfones by *N*–methylmorpholine oxide, osmium tetroxide catalysis, 5043
oxidation to sulfones by catalytic OsO_4 and t–amine oxides, 7353
oxidation to sulfoxides by iodosobenzene, catalysed by $PhSeO_2H$, 793
see also Thioethers

Sulfimides (sulfilimines)
cyclic, rearangements of anions from 9–methyl–10–aza–9–thiaphenanthrene, 4359

Sulfines
α–arylsulfonyl–α–(1–propenyl)–, intermeds in thiophene synth, 3867
alkoxy–alkyl–, by oxidation of thiono–esters, 7411
synthesis by MCPBA oxidation enolisable thioketones, C–nmr, 747
trifluoromethyl–, source of CF_3 radicals for aromatic substitution, 7525

Sulfinyl compds
4–(2–oxoazetidinyl) phenyl sulfoxide, sulfinyl group displacement by silylated nucleophiles, 2375
chiral ephedrine sulfinamides, $AlMe_3$–catalysed reaction with Grignards, 5885
Kametani's "anthranilic sulfinamide anhydride" is 2–sulfinyliminobenzoyl chloride, 3263
methanesulfinates of diacetone glucose, effect of base on stereochem, 7299
sulfinamide–containing peptides as transition state analogues, 409
sulfinylation of alcohols using sulfonyl cyanides and DBU, 2585
tin homoallylsulfinates, by SO_2 cleavage cyclopropylmethylstannanes, 807

Sulfites
L–tartaric ester cyclic –, synth D–malates, 3155

Sulfonamides
benzenesulfonanilides, oxidation to quinone imide acetals by PhIO, 2133
butyl *N*–tosyliminoacetate, cycloaddn to 1,3–diene, 1649
cyclic –, [*b*]–fused 4–hydroxy–1,2,4–benzothiadiazine 1,1–dioxides, 2935
peptide analogue with $–NHSO_2–$ replacing –CONH–, 6779
photo–detosylation, with anionic sensitisation, 1425
photo–Fries rearr of benzenesulfonanilide in cyclodextrin, *ortho* selectivity, 2975

potassium *N*–chloro–arenesulfonamides, Pd–catalysed carbonylation, *N*–arylsulfonyl–ureas, –urethanes, 5833
synth by amination of sulfinic acids, 7179
taurinyl peptide analogues, synth, 409

Sulfonation
of naphthalene, anthraquinone, using microwave heating, 5251

Sulfones
(*E*)–γ–hydroxy–αβ–unsaturated, protection, metalation, functionalization, 1385
1,2–bis(alkylsulfonyl)benzenes, cathodic reduction, radical desulfonylation, 2481
1–phenylsulfonyl–1–(ω–iodoalkyl)–allenes, radical cyclizations, 3659
2,3–diiodo–1–phenylsulfonylpropene, $AgBF_4$–catalysed reaction with silyl enol ethers, 5673
2,3–epoxypropyl–, cathodic isomerisation to 3–hydroxyprop–1–enyl compds, 1099
3–phenylsulfonylchromanones, synth 3–alkyl derivs, 7727
3–phenylsulfonylsulfolene, cycloaddn of diazomethane, 7609
4–phenylsulfonyl–5–alkoxy–2(5*H*)–furanones, dienophiles, chiral with methyloxy substit, synth, use, 7751
α–(dimethylphosphoryloxy, trimethylsilyl, bromo)–vinyl phenyl – use in radical homologation of acids, 3309
α–halo–, generation of α–lithio– from under acylating conditions, 4457
α–trimethylsilylallenyl aryl –, thiophenes from with alkyl–Li and SO_2, 3867
alkyl 2–benzothiazolyl –, olefin synthesis using, 1175
β–phenylsulfonyl enones, acylacetylene equivalents in Diels–Alder reaction, 5405
β–trimethylsilylalkyl–, reaction with epoxides, 1073
bisbenzenesulfonylmethane, Pd–catalyzed hydroxyprenylation, 2193
CH_2SO_2 replacing one NHCO in tripeptide, renin inhibitor isosteres, 5263
cyclic –, cleavage by ultrasonically–dispersed potassium in THF, accel by water, 3551
desulfonylation of alkyl – by $SmI_2/(Me_2N)_3PO$, 1949
dinucleotide analogs, sulfonyloxy– and sulfonylmethyl–linked, 1267
dioxirane oxidation of bis(phenylthio)acetylene, 2177
dithia[4.4]orthometa– and orthopara–cyclophane tetroxides, SO_2 extrusion, 2117
from isopropylidene tosyloxymalonate by PTC in presence of alkylating agent, 2937
from sulfide oxidation using catalytic OsO_4 and t–amine oxides, 7353
from sulfides by *N*–methylmorpholine oxide oxidation, OsO_4 catalysis, 5043
γ–hydroxyalkenyl–, from βγ–epoxy–sulfones, 2861
γ–oxy–αβ–unsat –, diasterofacial selectivity in nucleophilic epoxidation, 5393
intramol acylation of α–arylsulfonyl anion by mixed anhydride, α–acylsulfone synth, 4457
iodomethyl phenyl –, radical addn to alkenes, γ–iodoalkyl phenyl –, 3259
isobutyl phenyl –, α–anion cond with sugar–derived aldehyde, 3409
methyl phenyl –, lithiation, reaction with 1,2–dimethyloxirans, 1385
olefin synth from β–hydroxysulfone xanthates, selenobenzoates, thionocarbonates, 2703
p–chloro–diaryl –, electro–induced $S_{RN}1$ by 2,6–di–t–butyl phenoxide, 4–arylsulfonyl 4′–hydroxy–biphenyls, 6705
phenyl isoprenyl –, lithiation, alkylation and desulfonylation, 2083
phenyl vinyl –, insertion by radical addn, 199
regiosel synth of allylsilanes *via* sulfones, 1149
t–butylsulfonylalkenes, reduction, alkylative desulfonylation, 4579, 4583
thioglycoside sulfone analogs of etoposide, 2849

Sulfonic acids and derivs
2–tosylmethyl tetrahydrofurans, tetrahydrothiophenes, by radical cyclization of 4–pentenyl tosylates, thiotosylates, 6653
4–pentenyl tosylates, thiotosylates, radical cyclization to 2–tosylmethyl tetrahydrofurans, tetrahydrothiophenes, 6653
isopropylidene tosyloxymalonate, base–induced sulfinate elimination, sulfone formation, 2937
mesylates and other sulfonates, Co–catalysed carbonylation, 3091
mono–6^A–*O*–*p*–nitrobenzenesulfonyl mono–6^X–*O*–β–naphthalenesulfonyl β–cyclodextrins, synth, structure determination, 6737
N–fluoro–1,2–benzenedisulfonimide, synth of, fluorination by, 1631
ribonucleoside 5′–deoxy–5′–sulfomethyl derivs, 1267
triflic anhydride, reaction with phenyldiazomethane, 729
vinyl triflates, coupling to aryltributylstannanes, catalyst modification, 4243
see also Sulfonyl compds

Sulfonium salts
dimethyl–(*N*–succinimidyl)–, for conversion of hydroxamic acids into RCO–NO, 5349
from benzoic acids using BH_3–Me_2S–BF_3, 2759
reduced 8a–thioniaphenanthrenes, synth by cycloaddn of dienes to 2–benzothiopyrylium ions, 5572
Ritter reactions with episulfonium ion intermediates, enantioselectivity, 4317
trialkylsulfonium, trialkylsulfoxonium hydroxides, from iodides by extractive method, 3621

Sulfonyl compds
brosyl azide, ultrasonic acceleration of addn–rearr with enol ethers, 2457
mesylsulfonyl chloride for β–aminoacid cyclodehydration, 2299
sulfonyl cyanides and DBU, sulfinylation of alcohols using, 2585
sulfonylated charcoal as heterogeneous acid catalyst in acetalization, 413
see also Sulfonic acids and derivs

Sulfoxides
(+)–(*R*)–ethynyl–*p*–tolyl–, conjugate addn alkoxides, aryloxides, thiols, thiophenols, 4907
(*S*,*S*)–bis–p–toluenesulfinylmethane, asymm induction in reaction with aldehydes, 3695
1–phenylsulfinyl–1–(ω–iodoalkyl)–allenes, radical cyclizations, 3659
2,3–epoxypropyl–, cathodic isomerisation to 3–hydroxyprop–1–enyl compds, 1099
2–(*p*–toluenesulfinyl)aldehyde *N*,*N*–dimethylhydrazone, displacement of ArSO–group by RS–, 2237
4–(2–oxoazetidinyl) phenyl –, sulfinyl group displacement by silylated nucleophiles, 2375
4*H*–1,3–oxathiin *S*–oxides, synth, 2971
α–fluoro–, stereochemistry of formation, 1463
α–halo–β–keto–, desulfinylation by EtMgBr, trapping of Mg enolate, 5599
allyl sulfoxide – sulfenate rearr in chrysanthemonitrile synth, 2637

β–keto–, asymm induction on reduction, 509
bis(aroylmethyl) –, with araldehydes forming chalcones, 7469
breynin B, natural – deriv, 6847
chial aryl ethynyl –, synth, amine addn and tetrahydroisoquinoline synth, 6861
chiral 2–*p*–tolylsulfinyl cyclohexanones and cyclopentanones, reaction with $AlMe_3$, 3191
chiral acylmethyl *p*–tolyl –, reaction with Et_2AlCN, 3195
chiral, synth using ephedrine as chiral auxiliary, 5885
enantiosel synth using diastereomers of diacetone glucose sulfinates, 7299
from sulfide groups in fatty acid chains, by baker's yeast, 891
intramol α–acylation in cyclopentenone synth, 275
iodosobenzene oxidation of sulfides catalysed by $PhSeO_2H$, 793
modified Pummerer rearr for attachment of alkylthioalkyl groups to nucleosides, 7593
oxygen transfer from aromatic *N*–oxides to sulfides catalysed by RuO_2–tetramesitylporphyrin, 7435
phenyl 3–subst–3–pyridyl, arylation with sulfenate displacement by Ar–Li, Ar–MgBr, 2943
phenyl alkynyl –, Pd–catalysed hydrostannation, 5047
resolution of 2–pyridyl *p*–tolyl sulfoxide by chiral sulfinylation and desulfinylation, 2947
sulfide oxidation by PhIO catalysed by halogenated iron(III) porphyrin on silica, 1467
thioglycoside *S*–oxide analogs of etoposide, 2849
toluenesulfinylmaleate esters, synth, Diels–Alder reactivity, 947
trans–1,3–dithiane di— anion, stereosel addn to aldehydes, 7743
vinylic –, additive Pummerer rearr to α–phenylthio–acylals, 6973

Sulfoximides (sulfoximines)
N–phenyl allyl–*p*–tolyl—, synth, alkylation of anion, 6497
N–vinyl—, nucleophilic addn–eliminations, synth α–methylene nitriles, phosphonates, 3119
S,S–diisopropyl–, *N*–methoxy–*N*–methyl dimethylcyclopropanecarboxamide synth, 1275

Sulfur compds
benzotrithiole deriv, lissoclinotoxin A, 911
oxidative insertion into non–activated C–H bonds, 2351
tetrathia–dibenzofulvalene, per(alkylthio) derivs, synth, electrochem oxidation, 479

Sulfur halogen compds
DAST, difluoromethyl group from aldehyde using, 887
diethylaminosulfur trifluoride (DAST), conversion 1,1–difluoro–1–alken–3–ols into (*Z*)–trifluoromethyl alkenes by, 5963
N–phenyl *S*–p–tolyl sulfoximidoyl chloride, allyl–dechlorination by allylstannane, $AlCl_3$–catalysed, 6497

Sulfur heterocycles
1,2,4–benzotrithiins, synth from benzopentathiepin and P–ylides, 6345
1,2–dithiin, 3,6–dihydro–4,5–dimethyl–, and 1,2,3,4–tetrathiocin, 5,8–dihydro–6,7–dimethyl–, from dimethylbutadiene and $Ph_3C.SSCl$, 7651
1,3–oxathiolanes, thiazolidines, radical cleavage by 1,1,1,3,3,3–hexamethyltrisilane, 2853
1*H*–2–benzothiopyrans, by cycloaddn to and reaction with nucleophilic heterocycles of 2–benzothiopyrylium ions, 5572
2,6–bis(bis(methylthio)methylene)benzo[1,2–*d*;4,5–*d'*]bis[1,3]dithiole, 2,5,8–tris(bis(methylthio)methylene)benzo[1,2–*d*;3,4–*d'*;5,6–*d''*]tris[1,3]dithiole, cyclic voltammetry, 4897
6*H*–cyclohepta[*b*]thiophene, 8–(2–methylthiophenyl)–, by rearr of dibenzo[*f,h*][1,5]dithionin, 4771
8*H*–dinaphtho[2,1–*f*;1',2'–*h*][1,5]dithionin, synth, photochem and base–induced rearrs, 4771
benzo[1,2–*d*;4,5–*d'*]bis[1,3]dithiole, 2,6–bis(bis(methylthio)methylene)–, benzo[1,2–*d*;3,4–*d'*;5,6–*d''*]tris[1,3]dithiole, 2,5,8–tris(bis(methylthio)methylene)–, synth, electrochemistry, 4897
benzo[*c*]thiophenes, hexahydro–, formation from *S*–allyl *O*–penta–3,5–dienyl xanthate, 2387
cyclic tetrathianes, with ring Ge, 6143
diphenylmethylidenethiiranes, Pd(0)–catalysed intra– and intermol cyclizations, 4573
mesoionic 2,5–diaryl–1,3–dithiolylium–4–olates from thermolysis of 4–aryl–1,3,2–oxathiazolylium–5–olates, 4023
phenoxathiin 10–oxide, derivs in enantiosel thiol capture peptide synth, 3013
spiro–fused thiazoles, thiazines, by Mn(III)–promoted cyclizations, 7111
thieno[3,2–*b*]thiophene, 2,5–dihydro–2,5–bis(diarylmethylene)–, dithieno[3,2–*b*;2',3'–*d*]thiophene, 2,6–dihydro–2,6–bis(diarylmethylene)–, synth, uv–vis spectra, 4367
thiepin–2,3,4,5–tetracarboxylic acid, 6,7–dihydro–6–diphenylmethylene–, tetramethyl ester, 4573
see also the individual ring systems

Sulfuric acid and derivs
2,4–dinitrophenyl sulfate, solvolysis in hydrophobic environments, r1>
chiral 1,2–cyclic sulfates, imidazolines from, 999
musclides, aliphatic hydrogen sulfates from musk, 1733
serine *O*–sulfate, macrolide component from tunicate, 797
stilbene cyclic sulfates, aminolysis, benzylisoquinolines from, 1775

Sultams
1,2–thiazetidine 1,1–dioxides, 3,4–dimethoxybenzyl *N*–protection, 751
3–t–butyl–2,3–dihydro–1,2–benzisothiazole 1,1–dioxide, synth, resolution, use as chiral auxiliary, 4893
bornylaminesulfonic acid – as chiral auxiliary, 61
camphor–derived sultam, chiral auxiliary for alkylation of glycine deriv, 6547
N–fluoro–, for enolate fluorination, 1779
potassium fluoride on alumina, deprotection of TBDMS phenols with ultrasound, 7207
saccharin analogues, synth from diethylbenzamides *via ortho*–lithiation, sulfination, amination, cyclization, 7179
trimethylsilyl styrene and 1,3–diene synthesis by Suzuki cross–coupling, 43

Supported reagents/reactions
adsorbed metal carbenes, reactions with enynes, 1–acetonylbicyclo[3.1.0]hexane synth, 5895
benzylation of aromatics on clay, reversal of mesitylene and toluene reactivities, 2901, in mixture, benzyl alcohol more reactive than chloride towards toluene on clay, 2903
claycop, aromatization of dihydropyridines by, promoted by ultrasound, 3839
competitive benzoylation of anisole and mesitylene on montmorillonite, 1561

ferric chloride on silica for thioacetalization, 2259
Friedel–Crafts alkylation on clay–$ZnCl_2$, acceleration by benzene, 1423
kaolinite clays for Diels–Alder addn of CPD to MVK, effect of water, 2905
metalloporphyrins on silica, for sulfide to sulfoxide oxidation by PhIO, 1457
Michael addns on alumina, 2811
N–dodecyl–*N*–methylephedrenium borohydride on montmorillonite, stereochem of reduction by, 1247
on alumina, silica, montmorillonite, microwave and fluoride–activated silyl Reformatsky reaction, 1179
pyridinium chlorochromate on silica, allylic alcohol oxidised to rearranged enal, 6203
titanium on graphite for McMurry reductions of keto–esters, 6695
see also Polymer supported synthesis

Surfactants
enantiosel hydrolysis of DL–*p*–nitrophenyl *N*–dodecanoyl phenylalanate by tripeptide in hybrid micellar assemblies, temperature and composition effects, 6597
neutral, poly–*N*–[(trishydroxymethyl)methyl] acrylamide, for cell–wall extraction, 1437
polymerized micelle–forming –, catalytic activity of, 1881, corrigendum, 4056

Tautomerism
2–subst–4,6,6–trimethyl–dihydropyrimidines, and H/D–exchange in, 2057
bis(methyltriazeno)ethane, by ^1H nmr, 183
keto–enol – of steroidal α–nitroketones, 5353
ring–chain –, 5–hydroxypentanal oxime and *N*–(2–tetrahydropyranyl)hydroxylamine, 3783

Tellurium and compds
1,5–ditelluracyclooctane, synth, dication formation, 4537
aryl alkenyl tellurides, radical cyclizations, 4713
β–trichlorotelluroketones, from $TeCl_4$ and trimethylsilyloxycyclopropanes, 229
bistrimethylstannyltelluride, dehalogenation of α–haloketones by, 1545
phenyltelluride anion, generation of perfluoroalkyl radicals by, addn to olefins, 7425
tetrachloride, dithioacetalization catalyst, 2039

Templates, molecular
enantiosel thiol capture strategy for polypeptide synth, phenoxathiin 10–oxide deriv, 3013
salicyl alcohol for Ullmann coupling forming unsymm diphenic acids, 6919
synth of a [2]–rotaxane, self–assembly of tetracationic bisbipyridyl ring about 1,4–di(polyoxaalkyloxy)benzene terminated by adamantoyl groups, 6235
thiol capture strategy for polypeptide synth, xanthene, dibenz[*c*,*h*]xanthen–7–one spacers, 3009
thiol capture synthesis of polypeptides, 8–mercaptodibenzofuran–1–ol, 2845

Terpenoids
(±)–6,7–dideoxyforskolin, and 13–*epi* analog, di–, stereocontrolled synth, 4027
(±)–dihydroactinidiolide, (±)–aeginetolide, C–11 lactones, synth, 4871
(±)–helminthosporal, sesqui– dialdehyde, synth, 6741
(±)–norlabdane, synth diol precursor, 4119
(±)–silphinene, synth of precursor, 2137
(±)–trichodiene, sesqui–, synth using ring transformation, 5581
(±)–veadeiroic acid, (±)–veadeirol, cleistanthane diterpenoids, synth, 3213
(+)–magydardienediol, (+)–magydartrienol, di–, enantiosel synth, 7567
(+)–pulegone, use in chiral synth of 2–amino–3–methylcyclopentanols, 6851
(+)–yingzhaosu A, antimalarial peroxide, synth from (–)–carvone, x–ray cryst structure, 5785
(–)–α–santonin, reductive cleavage to dienone acid by PhS^- or $PhSe^-$, 3413
(–)–carvone, synth chiral bicyclo[2.2.2]oct–2–en–6–ones and isotwistanones from, 6609
(–)–kanshinone A, sesqui–, synth from (+)–nopinone deriv, 7443
(–)–menthone, (+)–nopinone, reaction with 1,4–diphenyl–2–cyclopentene–1,4–endoperoxide, 7243
(–)–mint lactone, stereosel synth, 5191
(–)–noranisatin, synthesis oxidation product of sesquiterpenoid anisatin, 1329
(*E*,*E*)–tricyclohexaprenol, synth by radical addn, 7587
(*R*)–limonene, conversion into a *trans*–hydrindan–1–one, steroidal synthon, 6885
1,6,6–trimethylenebicyclo[3.3.0]oct–3–en–2–one, enantiosel synth from (+)–Δ^3–carene, formal synth (–)– $\Delta^{9(12)}$–capnellene, 1107
12,19–epithio–oleana–12,18–diene, from evaporitic sediments, synth, 4179
15–cyanopuupehenol, tetracyclic mixed sesqui–shikimate metabolite from sponge, 5671
24,28–dinor–18α–oleanane from petroleum, 2959
α–ilexanolic acid, triterpenoid with 18,19–seco–ursane skeleton, glycosides, 3535
α–phellandrene, theoretical study of CH–π–system interaction in 5–isopropylcyclohexa–1,3–diene, 6587
ambracetal, *epi*–8–ambracetal, synth using C=O protection, 765
β–carotene, exploratory study of autoxidation, 4203
β–ionone, *cis*–jasmone, allylic oxidation by $VO(OR)Cl_2$, 1741
β–pinene, 5,5–dimethyl–2–oxobicyclo[3.1.1]hept–3–ene–3–c arboxylic ester from, 2005
bornylamine–10–sulfonic acid sultam, chiral auxiliary in Pd–catalysed cyclopropanation of αβ–unsat acids, 5625; corrigendum, 7136
citreohybridones A, B, sester–metabolites from *Penicillium citreo–viride* hybrid strain, 3543
clerodin, approach to synth, rings C, D, and model for B, 5953
complanatin, abscisic acid–type sesqui– attached to flavonoid glycoside, 6135
costunolides, nucleophilic bromination by perbromide, 3217
D–camphor D–*myo*–inositol 2,3–acetal, selective protection using, 6167
dendroserin and 6–*epi*– isomer, eudesmanolides from 6β–acetoxyeudesmanone by chemo–microbiological route, 5383
di–, enantiosel route to octalone precursor of clerodanes, 2621
dichlorolissoclimide, labdane deriv from ascidian *Lissoclinum voeltzkowi*, 6701
diterpenoids, synthesis of secopseudopterin aglycone, 2083, of pseudopterin aglycone, 2087
drim–9(11)–en–8–ols, sesqui–, synth from (+)–royleanone, 4765
eleganolone di–, 3,4–dihydroxy–γ–butyrolactones (unnamed) from alga *Bifurcaria bifurcata*, 3577
enantiosel reduction of citronellal by baker's yeast, 2643
eurylene, squalene–type tri– from *Eurycoma longifolia*, 1803

favelines, dibenzocycloheptenes from *Cnidoscolus phyllacanthus* (Euphorb.), 3083
furano–sester— from dictyoceratid sponge, 6415
germacranolide–valine adduct dimer from *Centaurea aspera*, 5193
glycinophenols, polyprenyl alcohols, enzymic synth, 241
gramilaurone, ring–rearranged deriv from *Fusarium graminearum*, 1893
gymnemasaponins, antisweet principles from *Gymnema sylvestre*, 789
halitudinal, diterpenoid cyclopenta[*c*]pyran aldehyde, 169
ionone type C_{13} acetals from quince (*Cydonia oblonga*) brandy, 753
isovelleral, biomimetic formn from stearoylvelutinal in *Lactarius vellereus*, 2541
jujubasaponins I–III, dammarane glycosides from *Zizyphus jujuba*, revision of structure of ziziphin, 7059
ketopinic acid, Curtius reaction, oxazolidone from, and uses, 4959, 5563
kinetic resolution of 2,3–epoxy–geraniol, –nerol by chiral Ti(IV) catalyst, 3547
linalool disaccharide glycoside from raspberries, 4885
mamanuthaquinone, rearr drimane–benzoquinone deriv from sponge, 6687
mediterraneols E1, E2, diterpenoids from brown alga *Cystoseira mediterranea*, 2477
methyl (–)–kaur–9(11)–en–19–oate, 9β–hydroxy–11–oxo–, rearrangements with $BF_3.Et_2O/Ac_2O$ and $BF_3.Et_2O/Ac_2O$/AcOH, 7667
mono–, sesqui–terpene alcohol, addn of dimethylvinylidenecarbene to double bonds, 5547
neo–clerodane di—, synth isocrotocaudin from montanin A; structure revision of crotocaudin, isocrotocaudin, 7305
nopinone derivs, alkylation of 4–ethyl–6,6–dimethyl–3–phenylsulfonylbicyclo[3.1.1]hept–3–en–2–one, 7439
paramiltioic acid, rearranged norabietanoid from *Salvia paramiltiorrhiza*, struct, 5797
phytol, photosensitised oxygenation, solvent effects, 6551
pseudoionone from myrcene, Pd and Rh catalysis route, 1433
sclareol, di–, microbial hydroxylation, 1783
sesqui– lactone, homogynolide–A, bakkane, stereosel synth, 767
sesqui–, 2– and 4–thiocyanato–*neo*–pupukeanane, struct, nmr, 4843
sesqui–, drimanes (+)–fragolide, (–)–pereniporin B, synth, 4655
sesqui–, gramilaurone, trichothecene deriv from *Fusarium graminearum*, 1893
sesqui— isocyanides from nudibranch, 2–isocyanoallopupukeanane, 4α–isocyano–9–amorphene, 7291
sesquiterpenes, (±)–α–chamigrene synth, 589
sester–, dehydroluffariellolide and 16–oxo–, anionic moieties of sponge alkaloids, 1843
taxol derivs, synthetic approaches, 6679
see also Cembranoids, Gibberellins, Limonoids, Retinoids, Vitamin A

Tetrazines
1,2,3,4—, 1,2,3,6–tetrahydro–3–aryl–1,2–diethoxycarbonyl –6–tetraacetoxybutyl–, 2513
1,2,4,5–tetrazines, [4+1]–cycloaddn to dimethoxycarbene, 2743
3,6–bistrifluoromethyl–1,2,4,5—, cycloaddn to cyclooctatetraene, rearr to barreleno–pyridazines (5,8–etheno–phthalazines), 5949

Tetrazoles
5–aryl—, lithiation of anion in phenyl group and side–chain of *o*–tolyl, 6857

Thallium and compds
thallous acetate, effect on regioselectivity of Heck reaction with vinyl ether, 1753
thallous salts suppress alkene isomerisation in intramol Heck reactions, 687
trinitrate, oxidative rearr of 2–spiro–chroman–4–ones to 2,3–fused chromones, 5619
triorgano–, catalytic C–C bond formation using, 2255

Theoretical calculations
6–31G*//3–21G of stereoisomeric BF_3–aldehyde complexes, 2867
ab initio, on alkoxy–cyano–carbene, bent ground–state singlet predicted, 1925
AM1 – of acidity of 2,3–dideoxy–3–nitro–D–hex–2–enitol deriv, 5809
AM1 –, geometry and charge distribution in 9–phenyl–9,10–dihydroanthracene anions, 5659
AM1 calculations on fulvene diradical species, 4601
attraction *o*–quinone–*p*–quinone in bridged anthracene tetrone, AM1 calc, 3183
CH–π–system interaction in 5–isopropylcyclohexa–1,3–diene (α–phellandrene), 6587
cleavage of phenylalkane radical cations, MO/MNDO, 3–electron 3–orbital 3–configuration approach, 4933
cycloaddn acrylate ester to 2,6–bissilyloxy–3,4–dihydropyridine, solvent efects, 1401
cyclopentanylidenetrimethylenemethane, bis(cyclopentanylidenetrimethylenemethane) calculated to be singlet zwitterions, 4659
FMO calculations on cycloaddn of 2,5–dimethyl–3,4–dimethylenethiophene to substituted styrenes and benzaldehydes, 5305
lithiated vinyl ethers, *ab initio*, semiempirical anion energies, proton and Li^+ affinities, 6069
Michael addn acetaldehyde Li–enolate to acrolein, 3–21 G/MNDO, 823
MNDO – of Lewis–acid catalytic activity in ene reaction, 3837
MNDO, of retinoic acid, HOMOs and charges, 2379
Nazarov cyclization, theoretical study of reaction pathway, 725
negative hyperconjugation unimportant in α–fluorosulfides, 1467
sigmatropic [3,3]–rearr forming 10–membered thiolcarbonates, conformational calc, 1203
STO–3G calc on transition state to electrophilic attack on allyl fluoride, 6355
triplet diradical HMO prediction for 6,6–bis(cyclopentadienylene)fulvene and 6,6′–bis(6–cyclopentadienylenefulvene), 445
see also Molecular modelling/mechanics

Thermochemistry
aromaticity of heterocycles, Dewar–Breslow definition, application, 3949
calculations on intramol H–bonding in oligoamides, 3613, 3617
microwave activation of organic reactions, 2363

Thiadiazoles
1,2,5–thiadiazolidin–3–one 1,1–dioxides, hydantoin analogs, synth, 6545
1,3,4–thiadiazoline–2–thione carbonyl derivs, cyclic and acyclic carbonates from methyl glycosides using, 2751
3–acyl–5–methyl–1,3,4–thiadiazoline–2–thione, acylation of glycosylamines by, 1557

Thiafulvalenes
2–(dialkylaminomethyl) 1,1′,4,4′–tetra—, synth, charge transfer to TCNQ, 6407
extended tetra— through anthracene 9,10–positions, synth, cyclic voltammetry, cryst structure, distorted central quinodimethane ring, 6029
tetra— annulated with 1,4–dithiepin–6–one rings, synth, cyclic voltammetry, 6033

Thiazines
4*H*–1,3—5,6–dicarboxylate, 4–dimethylamino–, synth, electroreduction to pyrrole derivs, 2225

Thiazoles
2–amino–4,5–dihydro–5–methylene—, synth, spiro–fusion to methylene group, 7111
2–thiazolecarbonylmethylene=PPh_3, reaction with aldose acetonides, 3–deoxy–2–keto–sugar acid synth, 3247
acridono–fused, intermeds in nat product synth, 39
cyclothiazomycin, renin inhibitor from *Streptomyces sp.*, 217, 221
dolaphenine, stereosel synth, 931
long–range nmr couplings in BE 10988, a 3–(2–thiazolyl)indole–4,7–quinone, 2791
micrococcinic acid, polythiazolyl pyridine, synth by Pd–catalysed biaryl condensations, 4263
mirabazoles B and C, didehydeomirabazole A, from blue–green alga *Scytonema mirabile*, 2593
pateamine, 2,4–bridged – dilactone from sponge, 6411

Thiazolidines
1,3,4–thiazolidine–2–thione carbonyl derivs, cyclic and acyclic carbonates from methyl glycosides using, 2751
2,6–anhydro–2–thio–hexose, synth L–cladinose, 3–*epi*–L–cladinose from, 4139
methyl 2–thioxo—4–carboxylate, chiral auxiliary in synth of α–hydroxyethyl–β–lactams, 2577
N–ethoxycarbonyl–2–alkenyl–, α–aminoalkyl radical source, intramol C–C bond formation with heterocyclic ring cleavage, 6265
radical cleavage by 1,1,1,3,3,3–hexamethyltrisilane, 2853
thiazolidin–4–ones, 2–(3–pyridyl)–, activity of enantiomers as PAF antagonists, 379
thiazolidin–4–ones, 3,5–dimethyl–2–(3–pyridyl)–, stereoselective synthesis, 383

Thiins
see Thiopyrans

Thiiranes, thiirenes
allene episulfides, Pd(0)–catalysed intra– and inter–mol cyclizations, 4573
episulfonium ion intermediates in $PhSNR_2$/TFA cyclization of alkenols to cyclic ethers, 2261
thiiranes, intermediates in (*Z*)–olefin synth from ketones, 4385

Thioacetals
acetoacetaldehyde ethanedithiol dithioketal, 1787
carbon suboxide bisdithioacetals, 4679
dithioacetalization catalyzed by tellurium tetrachloride, 2039
formation using $FeCl_3$ on silica, 2259
lithio–dealkylsulfenylation of ketone – and benzaldehyde –, 2509
monothio–, from aldehydes using Si reagents, 467
tris(phenylthio)methyllithium, addn to β–ethoxy–α–methylacrolein, 6329

Thioamides
cinnamic –, bicyclic dimer formed on *N*–acylation, 2529
N–(dimethylaminomethylene)–, cycloaddn to acetylenic ester, 2225
peptide –, from Fmoc–amino–monothioacids, 7617

Thiocarbamates
synth through carbamoyl–lithium species with sulfur, 6867

Thiocarbonyl compds
6–methylenecyclohexa–2,4–dienethione, generation, dimer formation, 2013
conversion into carbonyl by TFAA, 1195
dithioesters, cycloaddn to nitrile oxides, 4329
ethanedithioic acid dianion, reaction with CS_2, tetrathiomalonic acid trianion, dimer, carbon suboxide bisdithioacetals, 4679
O–methyl monothiocarboxylates, from methyl carboxylate *via* silyl enol ether, 3469
oxidation enolisable thioketones to sulfines by MCPBA, 747
thiation of nucleosides *via* 1,2,4–triazol–1–yl or *N*–methylpyrrolidinio– derivs, 2817
thioamides, αβ–unsaturated, as dienes in intramol cycloaddns, 405
thiones, trimethylsilyl thioketones, cycloaddn to trimethylsilyl vinyl ketone, 2971
thionocarbonate in synth conduritol B tetraacetate from *myo*–inositol, 2471
thionocarbonates, radical reduction using $Et_3SiH/(PhCO)_2O_2$, 7187
thioxomalonic ester, other thiones, generation, trapping as diene adducts, 7389
see also Xanthates, other specific thio–compounds

Thiocyanates
2– and 4–thiocyanato–*neo*–pupukeanane, sponge sesquiterpenoids, 4843
4–thiocyanatothymidine, synth and SCN–displacement, 2505

Thioesters
aliphatic thiono–esters, oxidation to sulfines, 7411
t–butyl –, chiral boron enolates and use in synth β–lactams, 5287

Thioethers
2–methyl–4,4,4–tris(phenylthio)but–2–enal, synth, 6329
4–arylthio–thymidine analogs, incorporation into oligonucleotides and displacement by MeCOSH, 3851
α–(phenylthio)styrenes, synth by Friedel–Crafts alkenylation, 6563
α–(phenylthio)vinylation of arenes using α–(phenylthio)vinyl tin trichloride and molecular sieve, 5567
α–chlorination in aminoacid derivs, 4717
α–dialkylamino–, α–lithio–t–amines from, 1975
allyl phenyl –, carbenoid capture and rearr of ylid, 6159
aryl 2–alkyloxy–4–methoxyalk(en)yl –, from ArSCl, RMgX, and 2 mols alkenyl ether, 2601
β–hydroxyalkyl phenyl sulfides from optically active alkyloxiranes, 4317
chiral *cis*–β–tolylsulfinyl—, by thiolate addn to ethynyl sulfoxides, 4907
conversion of prim and sec C–OH into C–SPh using Ph_2S_2/Bu_3P at 10 kbar, 4155
cyclic enol –, $Mn(OAc)_3$–promoted addns of β–diketones, β–ketoesters, 7111
phenyl alkynyl –, Pd–catalysed hydrostannation, 5047
phenylthio group migration in 1,4– and 1,5–diol cyclodehydration, 5409

phenylthioacetic esters in furanone, dihydrofuranone synth, 2165
thioether analogs of ethidium bromide, 5019
trimethylsilyl–, for conversion aldehydes into monothioacetals, 467
vinyl–, addn to aldehyde of aldose deriv, 1809
see also Thioacetals

Thioglycosides
1–(2–pyridylthio)–2–deoxyglycosides, use in trisaccharide synth, 7317
activation of 1— by *N*–iodosuccinimide, synth guanosine diphosphate fucose, 6175
etoposide, thioglycoside, *S*–oxides and –dioxide analogs, 2849, 6927
nucleoside synth from, using *N*–iodosuccinimide, 3627
oxidation to sulfonylglycosides by catalytic OsO_4 and t–amine oxides, 7353
thioglucose analog of etoposide, synth, 6927

Thiolanes, thiolenes
S–aryl 2,4–dialkoxythiolanium salts, intermed in condn methyl alkenyl ethers with ArSCl and RMgX, 2601
synth 1,2–thiolan–3–ones from β–thiolactones, 6625

Thiols
2–(*p*–toluenesulfinyl)aldehyde *N,N*–dimethylhydrazone, displacement of ArSO–group by RS–, 2237
2α– and 3β–cholestane— from petroleum, isol, synth, 2955
alkyl halide conversion into – using $Me_2RSiSLi$, 2189
β–mercaptoalkyl carboxylic esters, chiral synth from αβ–unsat acids, 6723
conjugate addn to 3–methoxy–4–vinylcyclobutenedione, 1129
thiophenolate anion for reductive cleavage α–santonin lactone ring, 3413

Thionitroso compounds
ortho–subst thionitrosobenzenes, generation, trapping, reactivity compared with *para* isomers, 7459

Thiopeptides
pseudopeptides with CSNH links, synth, 7617

Thiophenes
2,3–dimethylene—, cycloaddn to 4–phenylsulfonyl–5–alkoxy–2(5*H*)–furanones, 7751
2,5–bis(diarylmethylene)–2,5–dihydro—, synth, 4313
2,5–dimethyl–3,4–dimethylenethiophene, cycloaddn to substituted styrenes and benzaldehydes, kinetics, lfer, FMO calculations, 5305
5–hydroxymethyltetrahydrothien–3–yl nucleoside analogues, 247
Friedel–Crafts carboxyalkylation, 6171
from α–trimethylsilylallenyl aryl sulfones, alkyl–Li and SO_2, 3867
fused – derived from oleananes in sediments, 4179
linear condensed –, extended quinonedimethides of, 4367
tetrahydro—, 2–tosylmethyl–, by radical cyclization of 4–pentenyl thiotosylates, 6653
thieno[2,3–*b*]thiophen–3(2*H*)–ones, synth, 721
thiophene–2,3–dicarboxylic acid, 4,5–dihydro–4–diphenylmethylene–, dimethyl ester, 4573

Thiopyrans
3,4–dihydro–2–benzothiopyrans, synth by aromatization cyclic thia–enediyne, 391
3,4–dihydro–2*H*—3–thiocarboxamide, 6–acylamino–2,4–diphenyl–, 2529
3,6–dihydro–2–phenyl–2–trimethylsilyl–2*H*–, reactivity, 815
4–oxo–3–tetrahydrothiopyranylacetate, enantiosel reduction by baker's yeast, 7055
fused dihydro–, by intramol cycloaddn multiple bond to *N*–acyl–αβ–unsat thioamides, 405
reductive ring expansion of thienylfulvene to 2–cyclopentadienylidenethiopyran, 3499
tetrahydro—4–one, aldol reactions of in polypropionate synth, 5369

Thiopyrylium ions
2–benzo—, cycloaddn of dienes to C=S bond, 5572

Thiosugars
thiopyranose sugars, synth from 5–mesyloxy–aldose thio–hemiacylals, 7087

Thioureas
effect of on frozen solution ESR spectra of bi–nitroxide, 2021
imidazolidin–2–ones from imidazolidine–2–thiones, 4791
N–allyl– and –homoallyl–*N'*–phenyl—, iodo–cyclizations, 7111
thiuram disulfide, sulfurization of internucleotide phosphites, 3005

Tin and compds
"metal–free" Bu_3Sn^-, Br removal from aryl, vinyl halides, cyclization to ketones, esters, 6139,
(α–silylalkyl)stannanes, synth, use in Petersen olefination, 3285
(*E*)–vinylstannanes, synth from alkynes *via* aluminum derivs, 7647
(*E,E*)–1,4–bistributylstannylbuta–1,3–diene, use in synth diketones containing butadienyl unit, 7211
1–tributylstannyl–D–glucal, tris–tri–*O*–isopropylsilyl–, *C*–(2–amino)glycosides from, 5021
α–(phenylthio)vinylation of arenes using α–(phenylthio)vinyl tin trichloride and molecular sieve, 5567
α–alkoxyallyl stannanes, reaction with stereoisomeric BF_3–aldehyde complexes, 2867
alkenyl, alkynyl, aryl and allyl stannane coupling to β–ketoester enol triflates, 6675
allyl tributylstannane, for allylation of chirally OH–protected bis(hydroxymethyl)acetaldehyde, 6939
allyl, vinyl, hydrido–tributyltin, Pd–catalysed replacement triflyloxy groups, 157
allylstannanes by hydrostannation of alkoxyallenes, 1187
allylstannanes, chiral, BF_3–promoted reaction with aldehydes, 13
allylstannanes, photo–induced SET reaction with αβ–epoxyketones, 2029
allyltributyl– in synth allyl *C*–glycoside of *N*–acetylneuraminic acid, 3953
allyltrimethyltin, reaction with singlet oxygen, 1745
aryltributylstannanes, coupling to vinyl triflates, catalyst modification, 4243
β–trimethylstannyl ketones, photo–cleavage, 4003
bistributyltin oxide, reagent for ester cleavage, 4239
bistrimethylstannyltelluride, dehalogenation of α–haloketones by, 1545
chiral allylstannanes, stereoselectivity of addn to benzaldehyde, 453

chiral γ–silyloxy allylstannanes, 1,3–isomerization, stereochem, absolute config, reactions with aldehydes, 2101
cis–3–benzyloxycyclohexyl chlorodimethylstannane, diastereotopomerisation of Me groups, mechanism, hypervalent Sn, 4945
cyclization of allyl–tin aldehydes, BF_3–catalysed, diastereosel of 6.6, 6,7 and 7.7 ring fusion, 7069
cyclopropylmethylstannanes, electrophilic cleavage, 807
dibutyltin oxide, selective OH functionalization in 1–deoxynojirimycin deriv by, 5691
enediones by $[RhCl(C_2H_4)_2]_2$–$SnCl_2$–catalysed reaction vinyl ketones with allyl acetone, 1077
γ–tributylstannyl allyl tert–alcohols, chiral synth, 5793
glycosyl stannanes, C–glycosides from, 769
hexaalkyldistannane for modification of Pd–catalysed cyclizations, 3859
hexabutyldistannane, in radical cyclization, 843
hydrostannylation of acetylenes, selectively *cis* or *trans*, in trisubst olefin synth, 7535
N,N–bistrimethylsilyl (*E*)–3–tributylstannylallylamine, synth, uses, 4121
oxiranyltin derivs, lithio–oxirans from, 615
Pd–catalysed cross–coupling of 2–, 3–bromo–2,3–dideoxyuridine derivs with vinyl, aryl, alkyl stannanes, 3391
propenoylstannanes, synth, reaction with metallated nucleophiles, 1899
radical reductions and allylations of α–haloesters using $HSnBu_3$ and Allyl–$SnBu_3$, 27
stannyl radicals, addn to acetylenes and cyclization, 1799
stannylcupration of acetylenes by $Bu_3SnCu(CN)Li$, synth tributylstannylvinylacetylenes, enediynes, 6085
stannylquinones, Pd–catalysed oxidative dimerization, 5681
tetrabutylammonium difluorotriphenylstannate, stable, anhydrous fluoride substitute, 7381
tetramethyl–, Pd–catalysed methyl–deiodination of iodopyrimidine deriv, 4397
tetraselenastannolane, 5,5–diaryl–, synth, x–ray, 6151
tin enolates in [2,3]–Wittig rearr of allyloxyacetates, 4647
tin–cobalt carbonyls, for carbonylation of 2–bromoethylbenzene, 4703
trans–α–stannyl epoxides, stereochem of reductive alkylation by organo–Li reagents, 6305
tributylstannyllithium, addn to 4–t–$BuMe_2SiO$–2–PhSe–cyclopent–2–en–1–one, 1325
tributyltin hydride reduction of selenoacetals, stereochemistry, 3231
tributyltin hydride, Pd(II)–catalysed *cis* addn to 1,3–diyne, and iodo–destannylation, 3329
tributyltin hydride, Pd–catalysed hydrostannation of arylthioalkynes, 5047
tributyltin hydride, promotion of radical addn and [2+2+2] cycloaddn of ethyl propiolate to acrylic ester, nitrile, 5101
tributyltin hydride, radical generation from chlorodifluoromethyl compounds, 5873
tributyltin hydride–mediated cyclizations of P–, S–functionalised ω–iodoalka–1,2–dienes, 3659
tributyltin–copper lithium reagents, addn to diethylacetals of prop–2–ynal, but–3–ynal, 2–methylbut–3–ynal, 6333, 6337
trimethyl trimethylstannylallyl silanes, in Pd–catalysed cross–couplings, 4341
trimethylstannyl group a removable anchoring function in subst decalin synthesis, 5219
vinyl–, allyl–, trimethylsilylethynyl–, trimethylsilyl–tributylstannanes, Pd–catalysed coupling with cyclization to *o*–haloaryl alkynes, 7703
vinyl–, aryl–tributylstannanes, Pd–catalysed coupling to *O*–fluorosulfonyl enolates of cephalosporin β–ketoesters, 4073

Titanium and compds

(*R*)–1,1′–binaphthalene–2,2′–diol, Ti(IV) complex in asymm hetero–Diels–Alder synth, 935
1–titanacyclobutene, 1,1–bis(η^5–cyclopentadienyl)–2,3–dimethyl/diphenyl–, insertion of carbonyls, 1,3–dienes from, 1687
alkoxytitanium homoenolates, reaction with *N,N*–dibenzyl–α–aminoaldehydes, 233
binol–derived chiral Ti(IV) catalysts for carbonyl–ene cyclizations, 6571
ester chloro(isopropoxy)–Ti homoenolates, stereocontrol of addn to α–aminoaldehyde derivs, 1867
furfural acetals, 4–(triisopropoxytitanio)–, 903
tetra(dialkylamides), for amination of αβ–unsat esters, ketones; tandem aldols, 2371
$TiCl_4$–mediated coupling of acetals,to β–keto–esters, –amides, 3635

Toxins

aplysiatoxin from sea hare *Stylocheilus longicauda*, stereosel synth of intermediates, 5137; assembly to toxin precursor, 5141
cyto–, dichlorolissoclimide, labdane deriv from ascidian, 6701
cyto–, DNA cleavage reaction by kapurimycin A3 on tetranucleotide model, 7719
cytotoxicity of acetogenins from *Annona muricata*, 7539
dendrobatid frog – (±)–indolizidine 209B, synth, 5889
depentyl perhydrohistrionicotoxin, asymm synth, 2485
marine polyether –, synth of elements of, 2241, 2245, 2249, 2253
mirabazoles B and C, didehydeomirabazole A, isol from blue–green alga *Scytonema mirabile*, struct, 2593
pateamine, cyto–, 2,4–bridged thiazole dilactone from sponge, 6411
podophyllotoxin, synth benzoquinolizidine analogs, 2489
podophyllotoxins, glycoside synthesis, 1653
pumiliotoxin C, frog poison, synth (±)– form and approach to (–)–, 5697

Transannular reactions

1–thia–6–azacyclodeca–3,8–diynes, 6–methyl–, 6–tosyl–, reactions with LAH, H_2SO_4, 2883
2*H*–3,4,7,8–tetradehydro–9,10–dihydrothiecin, 3,4–dihydro–1*H*–2–benzothiopyran from, 4363
cyclization, of cyclic thia–enediynes to 3,4–dihydro–2–benzothiopyrans, 391
γδ–unsat 9/10–membered lactams, stereochem; epilupinine synth, 5709
ring–bridging of fused 4–hydroxymethyl tetrahydroazepine deriv, 7079
trienomycinol ester, acid–catalysed N–C4 and C9–C13 closure, 1627

Transfer reactions

intramol transesterification in thiophosphate analogs of dinucleotide, 3723
iodine – from iodomalononitriles to alkenes, radical mech proposed, 6307
lipase–catalysed transesterification in resolution of α–hydroxyalkyl stannanes, 5683
transesterification catalysed by lipase Amano AK, solvent effects on, 4941
transesterification, lipase–catalysed, vinyl to other acrylates, 6865

see also Glycosylation, *and* transglycosylations, lipase transesterifications, *under* Enzymes

Transition states
analogues, sulfinamide– and sulfonamide–containing peptides, 409

Transmetallation
tin for aluminum in vinyl compounds, 7647

Trapping reactions
4,5–dihydro–4,5–dimethylene–3–phenylisoxazole, as cyclo–adducts, 4603
α,α′–divinyl carbonyl ylids, as DMAD adducts, 7637
by Et chloroformate, TMS–Cl, of Mg enolate of α–haloketones, 5599
by nitroxide of triplet 1,3–cyclopentanediyl, 1405
carboxy–, acetyl–, formyl–benzoquinones, by 5–vinyl–2,3–dihydrofuran deriv, 1519
N–phthalimidonitrene by *trans*–stilbene, 1691
o–dimethylene–pyrazoles, as cycloadducts, 7609
phenyl thioxophosphane, PhP=S, as diene adducts, sulfurised, 7009
phenyl–trimethylsilyloxy–carbene, – as pyridinium ylid, 4443
selenoaldehydes, as adducts with dienes, 7427
spin— of radicals by 2,6–dichloronitrosobenzene, 5167
thiones, selones, as adducts with dienes, 7389
thionitroso–arenes, in diene and ene reactions, 7459
trimethylenemethane biradical, double addn to nitrone, ESR of bis–nitroxide, 3711

Triazines
2*H*–1,2,4–triazin–5–ones, synth cephem derivs as HLE–inhibitors, 6207
cyanuryl fluoride, for synth of aminoacid fluorides, 1303

Triazoles
1,2,3—4–carboxamide, from thermolysis of 6–alkoxy–5–diazodihydrouracil, 3799

Triazolines
1,2,4–triazoline–3,5–diones, reactions with vitamin A derivs, 2379
N–phenyl–1,2,4–triazoline–3,5–dione, ene adducts with 2,3–dimethylbut–2–ene, temperature effects, 2667

Trienes
1,2,4—5–carboxylates, by Pd–cat reaction Me tert–propargyl carbonates with Me acrylate, 3397
electroreductive alkylation of cycloheptatrienes, 1051
iron tricarbonyl complexes, asymm polyene synth using, 5265
synth by Wadsworth–Emmons method and incorporation into Δ^1–octalin, 4091

Trioxanes
1,2,4—, from 1,4–diphenyl–2–cyclopentene–1,4–endoperoxide with ketones, 7243
1,2,4—, synth using triethylsilyl hydrotrioxide *via* dioxetanes, 4235

Troponoids
2,3–benzotropone, *cis*–octahydro–, 1549
5–methyl–4–(2,3,4–trimethoxyphenyl)tropone, oxidative formation from π–allyl–Pd compds, 4089
electroreductive alkylation cycloheptatrienes, synth β–thujaplicin, 1051

Tungsten and compds
pentacarbonyl–, complex with 24–membered rings containing 4P, 8N atoms, 203

Ultrasound
3,4–methylenedioxyphenyllead triacetate synth and arylation of β–ketoester using ultrasonication, 5999
acceleration of addn–rearr of sulfonyl azides with enol ethers, 2457
allylic hydroxylation using SeO_2/t–BuOOH, 6203
bromination of olefins using Bu_4NBr_3, 4135
conjugate addn iodozinc alkyl to methyl acrylate, 2813
coupling of bromoaryls by Li, radical intermediates, 7133
deprotection of t–butyldimethylsilyl aryl ethers, KF/Al_2O_3 using –, 7207
dichloroketene–glycal cycloaddn, 7543
Diels–Alder reactions of toluenesulfinylmaleate esters, 947
diphosphene and diphosphirane formation, effectiveness of –, 5965
effect of – on Kornblum–Russell nitronate alkylation, 4709
montmorillonite – cupric nitrate aromatization of dihydropyridines, 3839
potassium dispersion for cyclic sulfone cleavage, 3551
Reformatsky reactions with ethyl bromodifluoroacetate, 7255
sonication in $Zn(BH_4)_2$ reduction esters to alcohols, 3243
steroidal homoallylic alcohol oxidation by Pr_4NRuO_4/*N*–methylmorpholine oxide, 3201
switching from ionic to radical pathways of styrene reactions with lead tetraacetate, 6379

Ultraviolet spectra
see Electronic spectra

Uracils
6–(1,2,3–triazol–1–yl)uracils, photolysis to pyrrolo–, indolo– and isoquinolino–pyrimidines, 323
6–alkoxy–5–diazo–5,6–dihydro—, Rh–catalysed ring–contraction, thermal rearr, 3799
Ag(I)–promoted arylsulfenylation, arylselenenylation at C–5, 2401
condensed –, 6–(subst imino)–2,4–dimethyl 6*H*–pyrido[1,2–*f*]pyrimido[4,5–*d*]pyrimidine–1,3(2*H*,4*H*)–diones, 4473
tristrimethylsilyl–6–aminouracil, regiospecific alkylation at N3, 6539

Ureas
complexation of by polycyclic cleft–structured diamides, 4185
N,*N*,*N*′,*N*′–tetramethyl–*O*–succinimidouronium fluoborate for activation of carboxylic acids, 1157
N–arylsulfonyl–, synth *via* arylsulfonyl isocyanate by Pd–catalysed carbonylation of potassium *N*–chlorosulfonamides in presence of amines, 5833
N–hydroxy–*N*–(α–arylethyl)–, from protected hydroxylamine, R–Li and TMS–NCO, 3783

Urethanes
alkoxycarbonylation of amines using di–2–pyridyl carbonate and alcohol, 4251
N–arylsulfonyl–, synth *via* arylsulfonyl isocyanate by Pd–catalysed carbonylation of potassium *N*–chlorosulfonamides in presence of alcohols, 5833

Uric acid and derivs
chemical, peroxidase, and uricase oxidation of uric acid, allantoin formation, C–13 labelling, 7477

Vanadium and compds
alkoxyvanadyl dichloride, allylic oxidation of enones by, 1741
oxyfluoride, for oxidative cyclization of tetramethoxystilbene deriv to phenanthrene, 5619

Viruses
rhinovirus protease inhibitor, thysanone, from *Thysanophora penicilloides*, 5279
synth alkaloidal potential HIV enzyme inhibitors, 5513, 5517

Vitamins
A, reactions of retinol, retinal, retinoic acid with 1,2,4-triazoline-3,5-diones, 2379
A, synth (9Z,11Z)-isomer, 4115; synth (7Z)- and (7Z,11Z)-isomers, 4117
A, synth by Pd-catalysed metalloalkene/iodoalkene coupling, 6683
B_{12a}, use in radical HI elimination in 3β-iodocephams, rearr and elim in iodomethyl penams, 7093
biotin-attached phosphoramidite, for reporter-group marked oligonucleotide synth, 1715
D_2, conversion into de-A,B-ergostene deriv, intermed in synth of -D_2 metabolites, 5397
D_3 analogs, 23-oxa- and 10,19-methano-23-oxa-calcitriol, synth, 5073
D_3 metabolites and analogs, synth 25-hydroxy-, 26,27-dialkyl-, 26,27-dinor-25-Me ester, 2813
D_3, 1,25-dihydroxy—, synth *via* enantiosel cyclopropyl ring synth and opening, 2339, 2343
D_3, 1α,25-dihydroxy-19-nor-, synth from (-)-quinic acid for ring A, 7663
D_3, 1α-hydroxy—, stereosel synth of A-ring by Pd-catalysed cyclization, 4937
D_3, 25-phospha-analogs, synth, biol activity, 4643
D_3, conversion into 1,25-dihydroxy metabolite, and 1α-fluoro-D_3, 6057

X-ray crystal structures
(±)-montanine, and intermed to synth, 7079
(+)-yingzhaosu A, antimalarial sesquiterpene peroxide, 5785
(*R,R*)-2,2,2-trifluoro-1-mesitylethyl 2-methoxy-2-phenyl-3,3,3-trifluoropropionate, 6835
1,1′-binaphthyl-2,2′-bis(dicyclohexylphosphine) dioxide, dibenzoyltartaric acid complex, 7283
1,2,3,5-tetrathia-4-germacyclohexane, 4,4,6,6-tetraaryl-, 6143
1,3,2-oxazaphosphorinane, 2-dimethylamino-5,5-dimethyl-3-phenyl-, 899, corrigendum, 3900
1,3-dibenzoyl-2-cyano-2,3-dihydro-1*H*-benzimidazole, 2997
1,6-diazacyclodeca-3,8-diynes, 1,6-methyl-, 2887
1,7-dioxaspiro[5.5]undecan-5-one, 10-t-butyldiphenylsilyloxy-2-methoxy-2,3,8-trimethyl-, 4081
1-diacetoxyiodo-2,4,6-tri-t-butylbenzene, 1327
1-thia-6-azacyclodeca-3,8-diynes, 6-methyl-, 6-tosyl-, 2883
1-[(2-acetoxy/hydroxy-1-methyl-2-phenyl)ethyl]-2-methoxycarbonylpyrrolidine-3,4-dicarboxylic *N*-phenylimides, 7531
10,10′-dihydroxy-9,9′,10,10′-tetrahydro-9,9′-bianthracene, 5737
16-membered epoxy-enone lactone, synthetic precursor to maridonolides, 5133
19-hydroxytubotaiwine, *Strychnos* alkaloid, 1787
1α-methoxycarbonyl-8aα-hydroxy-4aα,8-dimethyl-1,2,3,4,4a,5,6,8a-octahydronaphthalene-3-carboxylic acid lactone, 5531
1*H*-cyclobuta[*cd*][1]benzothiophene 3,3-dioxide, 3a,4,5,6,6a,6b-hexahydro-6b-methyl-6a-vinyl-, 1351
1*H*-pyrrolo[1,2-*a*]indole, 3-(2-indolyl)-2,3-dihydro-, polysubst, 1587
2,3,4,5-tetrahydroxy-1-iodocyclopentanecarboxylic acid, 1,4-lactone 2,3-acetonide, 6227
2-(*p*-bromophenylthio)maleimide, 6093
2-sila-5-oxabicyclo[5.3.1]undec-1(10)-en-6-one, 2,2-dimethyl-8-phenyl-, anti-Bredt intramol cycloaddn product, 2715
2*H*-3,4,7,8-tetradehydro-9,10-dihydrothiecin, 4363
3,5-anhydro-5-bromo-1,2-*O*-isopropylidene-α-D-glu curonate, 2,5-anhydro-2-azido-3,4:6,7-di-*O*-isopropylidene-D-*glycero*-D-*talo*-heptonate, Me esters, 3569
3-(2-hydroxycyclopentyl)-2,2-dimethyl cyclopropanecarboxylic acid, 5733
3-(dicyanomethylene)phthalide, 3449
3-(*m*-chlorophenyl)-7-cyclopentylamino-5-methylth iotriazolo[4,5-*d*]pyrimidine, 3583
4-ethoxy-3-methyloxepino[3,2-*d*]isoxazole-5,6,7-t ricarboxylate triester, 1161
5,6-dihydro-1,13-dihydroxy-2-methoxy-7-methoxycar bonyldibenzo[*d,f*]azonine, photorearr product of *N*-carbomethoxynorcodeinone, 7499
5-benzoyl-3,4-di(methoxycarbonyl)-2-methyl-2*H*-py rrol-2-yl pyrazolo[1,5-*a*]pyridine-2,3-dicarboxylate, 4977
6*H*-pyrido[1,2-*f*]pyrimido[4,5-*d*]pyrimidine-1,3(2*H*,4*H*)-diones, 6-(phenylimino)-2,4-dimethyl-, 4473
9,10-bis(4,5-dimethyl-1,3-dithiol-2-ylidene)anthracene, 2,3-dipentyl-, distorted central quinodimethane ring, 6029
acylhydrazide peptide analogs, intramol H-bonding, 2765
azireno[1,2-*b*][1,2]benzisothiazole 3,3-dioxide, 1,3a,7a,7b-tetrahydro-3a,6-dimethyl-7b-phenyl-, 1299
benthocyanin A, furo-phenazine from *Streptomyces prunicolor*, 943
benzothieno[2,3-*c*]indole, 6,6a-dihydro-6-hydroxy-6-methyl-, 4359
bicyclo[7.3.1]tridec-4-en-2,6-diyn-11-one ethylene acetal, 10-bromo-1,8,13-trihydroxy-13-hydroxymethyl-, calcheamicinone analog, 6671
C21-cyano-C16(21)-secocatharanthine, 3035
calix[4]arene, unsubstituted, 5655
camphor-derived sultam, *N*-[3,3-diphenyl-2-(diphenylmethyleneimino)-prop anoyl-, 6547
cis-2,4-bis[2,4,6-tris[bis(trimethylsilyl)methyl] phenyl]-2,4-dimesityl-1,3,2,4-dithiadigermetane , 6877
citreohybridone A, sesterterpenoid lactone from *Penicillium citreoviride* hybrid strain, 3543
cycloadduct of 2-t-butylbutadiene with *N*-(α-methylbenzyl)maleimide, 5877
dimethyl 1,3-diselenane-2-phosphonate, *cis*- and *trans*-5-t-butyl-, 4189
dynopinacol, structure and stereochem, 6037
endo,syn,endo- and *endo-anti-endo* 1:2 adducts of 1,5-cyclooctadiene with hexachloro- and 5,5-dimethoxy-tetrachloro- cyclopentadiene, 3289
eurylene, squalene-type triterpenoid, 1803
exo-1,2,3,4-tetrahydro-6-methoxybenzo[*h*]quinoline-2-spiro-5-(2-methoxycyclohexa-1,3-diene-η^5-ir on tricarbonyl), 1953

fused 1,2,4–trioxanes and 1,3–dioxolanes from 1,4–diphenyl–2–cyclopentene–1,4–endoperoxide and (–)–menthone, 7243
imidazo[4,5–*e*]–1,2–thiazin–4(5*H*)–one, 5–methyl–, neamphine, isol, struct, 2707
indol–2–one–3–spiro–2–pyrrolizidinecarboxylate, menthyl ester, 5417
methyl 1,4–dihydro–1,4–[1]propenoisoquinoline–3–carboxylate, and 6,7–dimethoxy–11–phenyl analog, 1409
methyl 13(8→9)–*abeo*–11–oxokaur–7–en–19–oate, 4α–acetoxymethyl–4β,7,9β–trimethyl–7α,10α–methano–2,3,4,7,8,9,10,11–octahydro–1*H*–naphthocycloheptene, rearr products of kaurene diterpenoids, 7667
methyl isoxazolo[4,5–*c*]isoxazole–6a–carboxylate, 6–(*N,N*–diethylcarbamoyl)–6,6a–dihydro–6–methyl–3–phenyl–, 6223
methyl shikimate homolog, acetone adduct, 951
N,N′–dimethyl *N,N′*–(2,3–dicarboxybuta–1,3–diene–1,4–diyl) di(oxamic acid), tetramethyl ester, 7571
naphtho[2′,1′–2,3]cyclopropa[2,1–*b*]thiophene, 2–methylthionaphth–1–yl–, 4771
naphtho[3,2–*b*]pyran–2–one, bridged, reduced diacetal, part structure of paspalicine, 1381
neohalicholactone, 9–membered – from sponge, conformation and structure, 2427
phenyl–bis(triphenylmethylthio)–phosphine, 7009
raphanusamide, (*E*)–3–methoxymethylene 2–pyrrolidinethione, 6761
raphanusanin B, (±)–(3*R**,6*S**)–3–[methoxy(methylthio)methyl] 2–pyrrolidinethione, 6757
retrosulfonamido peptide analogue, t–BuOCO–Pro–NH–CH(iBu)–$NHSO_2CH_2CONH_2$, 6779
silvanol, calix[4]arene incorporating arborol groups, 1133
some diastereoisomeric pyroglutamic acid derivs, 2679
structure chiral *N,O*–ketene acetal, *O*–silylated, 61
strychnochromine, revised tetrahydroquinoline structure, 4295
tetra(bicyclo[2.2.2]octeno)–fused cyclooctatetraene, 6767
tetraselenastannolane, 5,5–diaryl–, 6151
tribenzo[*d,g,kl*]borepino[1,2–*a*]borepin, 5,6,10,11–tetrahydro–1,16–dimethyl–, 6363
tricyclo[9.2.2.$0^{2,10}$]pentadeca–2,12–dien–9–one ethylene acetal, 6473
trinuclear ruthenium diphosphine halide, $[Ru_3Cl_5(S\text{–binap})_3]^+$ BF_4^-, 3101
tripeptide deriv *N*–formyl–Met–ΔᶻLeu–Phe–OMe with β–turn conformation, 4375
tris[2–(3,5–di–t–butylphenyl)–2,2–dimethylethyl] bromoplumbane, 6601
unnamed 2,3;4,5–diepoxytetrahydrofuran–butenolide pseudopteranе metabolite from coral, 4661
[2]–rotaxane, tetracationic bisbipyridyl ring about 1,4–di(polyoxaalkyloxy)benzene terminated by adamantoyl groups, 6235
[3.3]metacyclophane, dimethoxy–dicyanomethylenequinone *syn* isomer, 2215

Xanthates

O–cinnamyl *S*–methyl –, [3,3]–sigmatropic rearr in β–cyclodextrin complex, 7557
radical reduction to hydrocarbon, 1,2–di— to olefins, by $Et_3SiH/(PhCO)_2O_2$, 7187
removal of α–oxy–substit from β–lactam by Bu_3SnH reduction of –, 3105
S–allyl *O*–penta–3,5–dienyl –, hexahydrobenzo[*c*]thiophenes by thermolysis, 2387
synth from β–hydroxysulfone xanthates, 2703
vic–di–, olefin formation from using Ph_2SiH_2, 2569

Xanthenes

9–aroyl–9–hydroxy–, synth by electrooxidation of 2,3–diarylbenzofurans, 4913
cyathostemmine, subst 1,2,4a,9a–tetrahydro—, shikimic acid deriv, 6117
5–hydroxy–4–mercapto–9,9–dimethyl–, thiol capture strategy for peptide synth using, 3009
tetrahydro— by oxidative rearr of 2–spiro–chroman–4–ones, 5619
xanthone antibiotics, synth cervinomycins A_1, A_2 triMe ethers, 5195; synth A_1 and A_2, 5199
zeyloxanthone (wightianone), structure, nmr, 4995
vinaxanthone, mould metabolite, phospholipase C inhibitor, 4737

Ylides

2–thiazolecarbonylmethylenetriphenylphosphorane, reaction with aldose acetonides, 3247
allylsulfonium –, cyclic, [2,3]–sigmatropic rearrangement, 6159
anionic –, γ–lithio–allylidenetriphenylphosphorane, reaction with ketones, 4353
arsonium –, by arsoniosilylation of αβ–enals, intermeds in furan synth, 2913
azomethine – from 3–methoxycarbonylmethyl oxazolidines, diastereosel cycloaddns to *N*–phenylmaleimide, 7531
azomethine – from isatin and sec–α–aminoacids, cycloaddn to menthyl acrylate, 5417
azomethine ylids, cycloaddn catalysed by chiral Co(II), Mn(II)–catalysts, 5817
C–(cyanoimino)–azomethine –, generation, cycloaddn to carbonyl compounds, 5987
carbonyl – from 2,3–divinyloxiranes, trapping, 4,5–dihydrooxepin formation, 7637
ketenylidenetriphenylphosphorane, cycloaddn to *N*–phenyl–bis(diethylphosphonato)ketenimine, 4279
N–trimethylsilyl *C*–(β–styryl) azomethine –, generation and 1,5–dipolar cyclization, 5093
nitrile –, equivalent of by Si–shift in *N*–(α–silylbenzyl)amides, 5813
phosphorus –, reaction with benzopentathiepin, 6345
pyridinium phenyl–trimethylsilyloxy–methylide, generation, UV detection, 4443
S–allylsulfonium enolate of 1,4–oxathian–2–one, [2,3]–sigmatropic rearr, 335
[1,2,3]triazolo[1,5–*a*]pyridinium ylids with DMAD, 2*H*–pyrrol–2–yl–pyrazolo[1,5–*a*]pyridines, 4977

Ynamines

cycloaddn to 4–nitroisoxazole–5–carbonyl compds and rearr to isoxazolo[4,5–*c*]isoxazole derivs, 6223
ynamino–esters, –nitriles, cycloaddn to 2–arylideneindane–1,3–diones, 4051

Zeolites

molecular sieve catalyst for α–(phenylthio)vinylation of arenes using α–(phenylthio)vinyl tin trichloride, 5567

molecular sieves in catalysed carbonylation of halides, 4733
montmorillonite K10, for coupling ethynyl hemiacetal to hydroxy–ester, 1613
photochem of 10–20–membered cyclic ketones, diketones in –, 7675
see also Supported reagents/reactions

Zinc and compds
1–alkenylzinc bromides, chiral addn to aldehydes promoted by Li–*N*–methylephedrine and analogs, 5777
2–(pentafluoropropenyl)zinc bromide, synth, uses, 4271
alkenyl alkyl –, selective alkenyl transfer to aldehydes, 2449
alkenyl– species by B–Zn group transfer, synth allyl alcohols, 2449
alkyl— reactions with (+)–*trans*–2–phenylcyclohexyl phenylglyoxylate, 3417
alkyl–CuCN–ZnI complexes for alkylation pentadienyl iron tracarbonyl cations, 113
alkynylzincs, Pd–catalysed cross–coupling to 1–and 2–iodo–1,3–enynes, 3329
allyl vinyl zincs, metalla–Claisen rearrangement, 5969, 5973
benzylic Cu(CN)ZnBr reagents, in pyridine substitution, 2033
bisporphyrin system containing Au(III) and Zn(II), 197
catalysis of Knoevenagel condensations by zinc chloride, 5821
complexes with 2–hydroxymethylbenzimidazoles, esterolytic activity in micelles, 193
coupling of vinylzinc to vinyl iodide moieties, Pd–catalysed, in dimorphecolic ester synth, 3701
dialkyl–, reaction with azodiformic mono–amide mono–ester, 3079
diethyl–, chiral addn to benzaldehyde catalysed by $Cr(CO)_3$–complexes, 4569
diethyl–, conjugate addn to enones in presence chiral catalyst, 95
diethyl— promotion of aldol dimer– and tetramer–ization of acetophenone, 6037
furfural acetals, 4–zincio–derivs, 903
iodomethyl– iodide, multiple methylene insertion into alkynyl–Cu reagents by, 1855
methyl 2,2–dichloro–3,3,3–trifluoropropionate, reactions of organo–Zn reagent from, 339
ω–ethylenic propargyl zinc compounds, carbocyclization, 5317
organo— addn to tricyclic αβ–epoxy–ketone, 3131
Rieke – for reduction enyne alcohols and derivs to dienyl alcohols, 299
secondary organo–, from 1,1–dibromoalkanes and trialkylzincate, 1573
sonication in $ZnBH_4$ reduction esters to alcohols, 3243
vinyl–, trimethylsilylethynyl— chloride, Pd–catalysed coupling with cyclization to *o*–haloaryl alkynes, 7703
vinyl–Zn reagents, Pd–catalysed cross–coupling α–iodo–, α–triflyloxy–enones, 4453
zinc–CuCl or –AgOAc for addn $H_2C{=}CR{-}CF_2{-}H$ to C=O, 1069
see also Reformatsky *in* Named Reactions

Zirconium and compds
dialkyl zirconocene, alkylation of carbonyls promoted by KOBu–t, 5893
hydrozirconation of terminal alkynes in *trans*–alkene synth, 5647
zirconocene dichloride catalysed ethyl Grignard addn to olefins and synth 1,4–dimagnesium reagents, 6797
zirconocene(isobutyl)chloride, generation, zirconacycles from, synthetic uses, 5465

Zwitterions
β–trimethylammonio–betaine, Eschweiler–Clarke methylation of β–aminopropionic acid, 3847
see also Betaines, mesomeric

Author Index 1991

Abarca B. Ballesteros R. Metni M. R. Jones G. Ando D. J. and **Hursthouse M. B.** A remarkable rearrangement during reaction between triazolopyridinium ylides and dimethyl acetylenedicarboxylate 4977

Abell C. see Balasubramanian S. 963

Abelman M. M. Preparation and cycloaddition chemistry of thio- and selenocarbonyls derived from reaction of elemental sulfur and selenium with stabilized α-halo anions 7389

Aben R. W. M. Minuti L. Scheeren H. W. and **Taticchi A.** High pressure-Lewis acid catalyzed Diels–Alder reactions of 3-methylcyclohex-2-en-1- one. A straightforward route to *cis* and *trans* angularly methylated octalones 6445

Aboulfida A. Jubault M. Pradère J.-P. Rozé J.-C. and **Tallec A.** A selective electrochemical way to functionalized 6H-1,3-thiazines and/or pyrroles 2225

Abraham N. A. Fazal G. Ferland J. M. Rakhit S. and **Gauthier J.** A new solid phase strategy for the synthesis of mammalian glucagon 577

Abramovitch D. A. see Abramovitch R. A. 5251

Abramovitch R. A. Abramovitch D. A. Iyanar K. and **Tamareselvy K.** Application of microwave energy to organic synthesis: improved technology 5251

Achiwa K. see Ebiike H. 5805

Achiwa K. see Murata M. 6763

Acklin P. see Lohse P. 615

Aclinou P. see Cossy J. 1315

Adam P. Schmid J.-C. Albrecht P. and Connan J. 2α and 3β Steroid thiols from reductive cleavage of macromolecular petroleum fraction 2955

Adam P. Trendel J. M. Albrecht P. and **Connan J.** Novel thiophene derived from higher plant triterpenes in sediments 4179

Adam W. Bottle S.E. and **Peters K.** Cycloaddition of nitrosobenzene to a trimethylenemethane diradical: the first case of isoxazoline formation from *in situ* generated nitroxides through spin trapping 4283

Adam W. Brünker H.-G. and **Nestler B.** Photooxygenation of 2-alkenyl substituted chiral oxazolines: stereochemical evidence favouring the *cis* effect in the regioselective ene reaction of singlet oxygen with α,β-unsaturated carbonyl derivatives 1957

Adam W. Finzel R. and **Kita F.** Benzophenone-sensitized two-photon chemistry of azoalkanes in the 'laser/liquid jet': evidence for photoinduced hydrogen 1,2-shift in 1,3-cyclopentadiyl triplet diradicals 2211

Adam W. Golsch D. Hadjiarapoglou L. and **Patonay T.** Dimethyldioxirane epoxidation of flavones 1041

Adam W. Hadjiarapoglou L. and **Wang X.** Dimethyldioxirane epoxidation of alkenes bearing two electron donating substituents 1295

Adam W. Hadjiarapoglou L. P. and **Meffert A.** Dimethyldioxirane epoxidation of 6,6-disubstituted fulvenes 6697

Adam W. and **Bottle S. E.** Benzophenone-sensitized photolysis of the azoalkane diazabicyclo(2.2.1)hept-2-ene (DBH): trapping of the 1,3-cyclopentadiyl triplet diradical by a nitroxide 1405

Adam W. and **Hasemann L.** α-Methylene-β-lactones as novel allene equivalents: regioselective [4+2] cycloaddition and stereoselective decarboxylation for the introduction of *exo*-alkylidene functionalities 7033

Adams H. see Mekhalfia A. 4783

Adiwidjaja G. see Bretemitz H.-J. 1299

Adlington R. M. see Baldwin J. E. 7093

Afarinkia K. see Posner G. H. 5295

Aggarwal V. K. Franklin R. J. and **Rice M. J.** Highly stereoselective addition reactions of metallated *trans*-1,3-dithiane-1,3-dioxide to aldehydes 7743

Aghazade Tabrizi M. Baraldi P. G. Guarneri M. Manfredini S. Pollini G. P. and **Simoni D.** A [3 + 2] nitrile oxide intermolecular cycloaddition approach to 4,5-dihydro-3(2H)-furanone and 3(2H)-furanone ring systems; application to the formal synthesis of (±)-ascofuranone and geiparvarin 683

Agosta W. C. see Kravitz J. I. 31

Agoston G. E. Cabal M. P. and **Turos E.** Lewis acid-promoted addition of allyl(cyclopentadienyl)iron(II) dicarbonyl to aldehydes: a new aldehyde allylation method 3001

Aguilar F. J. see Brunet E. 5423

Ahmad S. An efficient and diastereoselective [2+2] cycloaddition: convenient and enantioselective route to *trans*-2',3'-dihydroxymethylcyclobutane nucleoside analogs 6997

Ahn S. K. see Chu C. K. 3791

Ahuja J. R. see Sonawane H. R. 1107

Aldhen I. S. and **Narasimhan N. S.** A novel and versatile synthesis of 1-aryl-benzocyclobutenols and 1-aryl-benzocyclobutenes 2171
Almi N. Uchida N. Ohya N. Hosokawa H. Takayama H. Sakai S. Mendonza L. A. Polz L. and **Stöckigt J.** Novel indole alkaloids from cell suspension cultures of *Aspidosperma quebracho blanco* Schlecht 4949
Alt Itto M. Y. see El Hadrami M. 3985
Alzpurua J. M. see Palomo C. 2525
Akaba R. Ohshima K. Kawai Y. Obuchi Y. Negishi A. Sakuragi H. and **Tokumaru K.** Triplet-mediated electron transfer oxygenation of stilbene derivatives with 2,4,6-triphenylpyrylium tetrafluoroborate 109
Akahane A. see Meyers A. I. 5501
Akahane A. see Meyers A. I. 5509
Akai S. see Kita Y. 6019
Akaishi R. see Fujihara H. 4537
Akasaka T. Fukuoka K. and **Ando W.** Formation of 1,2-dioxolane in the singlet oxygenation of cyclopropane 7695
Akasaka T. Sato K. Kako M. and **Ando W.** Formation of 1,2,3,6-dioxadisilin in photo-induced electron transfer oxygenation of 1,2-disiletene 6605
Akazawa S. see Nakata M. 5363
Åkermark B. see Connell R. D. 17
Akgün E. see Georg G. I. 3151
Akgün E. see Georg G. I. 5521
Akiyama T. Hirofuji H. and **Ozaki S.** $AlCl_3$-N,N-dimethylaniline: a new benzyl and allyl ether cleavage reagent 1321
Akiyama T. Nishimoto H. and **Ozaki S.** Diastereoselective reduction of α-keto esters bearing *chiro*-inositol derivatives as chiral auxiliaries 1335
Akiyama T. see Tono M. 4023
Akiyama T. Shima H. and **Ozaki S.** A concise synthesis of (−)-conduritol F from L-quebrachitol via $AlCl_3$-*n*-Bu_4NI mediated demethylation 5593
Akutagawa S. see Murahashi S.-I. 2145
Akutagawa S. see Murahashi S.-I. 5991
Akutagawa S. see Zhang X. 7283
Al Ghouch A. A. see Lolkema L. D. M. 1491
Al Neirabeyeh M. see Moreau P. 5525
Al-said N. H. see Liu H.-J. 5473
Alaimo C. see Baldwin S. W. 5877
Alajarin M. see Molina P. 4041
Alajarín M. see Molina P. 5379
Alami M. and **Linstrumelle G.** An efficient palladium-catalyzed reaction of vinyl chlorides with terminal acetylenes 6109
Albericio F. Giralt E. and **Eritja R.** NPE-Resin, a new approach to the solid-phase synthesis of protected peptides and oligonucleotides-II. Synthesis of protected peptides 1515
Albericio F. see Eritja R. 1511
Albericio F. see Lloyd-Williams P. 4199
Albericio F. and **Barany G.** Hypersensitive acid-labile (HAL) tris(alkoxy)benzyl ester anchoring for solid-phase synthesis of protected peptide segments 1015
Albizati K. F. see Stolze D. A. 4081
Albrecht P. see Adam P. 2955
Albrecht P. see Adam P. 4179
Albrecht P. see Trendel J. M. 2959
Alcaide B. Martín-Cantalejo Y. Plumet J. Rodríguez-López J. and **Sierra M. A.** A novel, general, totally stereoselective one-pot synthesis of *cis*-3-substituted 4-formylazetidin-2-ones 803
Alcaraz C. Carretero J. C. and **Domínguez E.** Synthesis and conjugate additions to (*E*)-γ-alkoxy-α-substituted-α,β-unsaturated sulfones 1385
Alcázar V. see Crego M. 4185
Alcudia F. see Llera J. M. 7299
Alder R. W. Colclough D. and **Mowlam R. W.** Fragmentation during the formic acid/formaldehyde (Eschweiler–Clarke) methylation of polyamines 7755
Alexakis A. Lensen N. and **Mangeney P.** Chiral aminal templates-VI. Diastereoselectivity of hydrazone alkylation. Asymmetric synthesis of α-aminoaldehydes 1171
Alexakis A. see Marek I. 6337
Alexakis A. see Duffault J.-M. 3701
Alexakis A. see Mangeney P. 3981
Alexakis A. see Marek I. 5329
Alexander J. Baumgarten M. Klabunde K.-U. and **Müllen K.** Reductive transformations-XIV. Regioselective addition of carbanions to the 'aromatic' pyrene isomer dicyclopenta(ef,kl)heptalene 735
Alexander R. P. Beeley N. R. A. O'Driscoll M. O'Neill F. P. Millican T. A. Pratt A. J. and **Willenbrock F. W.** Cephalosporin nitrogen mustard carbamate prodrugs for 'ADEPT' 3269
Ali H. and **van Lier J. E.** Phenylselenyl halides: efficient reagents for the selective halogenation and nitration of porphyrins 5015
Ali H. M. Nalini A. A. and **Brubaker, Jr. C. H.** Selective reduction of conjugated double bonds with molecular hydrogen and palladium(II) complexed to ferrocenylamine sulfide catalysts 5489
Ali H. M. see Mahmood K. 6117
Alías A. see Molina P. 2979
Alías A. see Molina P. 4401
Alilou El H. see Jaafar A. 5531
Alker D. Jones D. N. Taylor G. M. and **Wood W. W.** Synthesis of homochiral trisubstituted γ-butyrolactones 1667
Allainmat M. see Leon-Ruaud P. 1557
Allainmat M. and **Piusquellec D.** A novel and convenient route to cyclic and acyclic carbonates from unprotected methyl D-glycosides 2751
Allcock S. J. Gilchrist T. L. and **King F. D.** Diels-Alder cycloaddition reactions of αβ-unsaturated aldehyde acylhydrazones 125
Allegrini P. see Castaldi G. 2173
Allen A. D. and **Tidwell T. T.** Trimethylsilylketene: reactivity and stabilization 847
Allen T. M. see de Silva E. D. 2707
Allevi P. Anastasia M. and **Ciuffreda P.** A short and simple synthesis of the thioglucose analog of the antitumor agent etoposide 6927
Allmang G. see Mercier C. 1433
Allmendinger T. Dandois C. and **Walliser B.** The hydrogenation of fluoroolefins 2735
Allmendinger T. and **Lang R. W.** Fluorine-containing organozinc reagents-VI. The preparation of α-trifluoromethyl-α,β-unsaturatd carboxylic acid esters 339
Allocco A. see Nolen E. G. 73
Allway P. and **Grigg R.** Chiral Co(II) and Mn(II) catalysts for the 1,3-dipolar cycloaddition reactions of azomethine ylides derived from arylidene imines of glycine 5817
Almeida P. S. Prabhakar S. Lobo A. M. and **Marcelo-Curto M. J.** Synthetic applications of

N-aryl-*O*-acyl hydroxamic acids. A convenient route to 3-substituted *N*-benzoyl oxindoles 2671
Almer H. and **Strömberg R.** Intramolecular transesterification in thiophosphate-analogues of an RNA-dimer 3723
Almond M. R. Collins J. L. Reitter B. E. Rideout J. L. Freeman G. A. and **St Clair M. H.** Synthesis of 2-amino-9-(3'-azido-2',3'-dideoxy-beta-D-*erythro*-pento-furanosyl)-6-methoxy-9H-purine (AzddMAP) and AzddGuo 5745
Alonso I. Carretero J. C. and **García Ruano J. L.** Synthesis and Diels-Alder reactions of *t*-butyl and *t*-butyl, methyl $(S)_S$-2-*p*-tolylsulfinylmaleates, chiral synthetic equivalents of monoalkyl and mixed dialkyl acetylenedicarboxylates 947
Alonso M. S. see Collado I. G. 3217
Alpegiani M. Bissolino P. D'Anello M. Rivola G. Borghi D. and **Perrone E.** Stereoselective alkoxy-de-amination of 7β-amino-3-deacetoxy cephalosporanic acid 3883
Alpegiani M. Bissolino P. Perrone E. Cassinelli G. and **Franceschi G.** Synthesis of novel cephem-4-ketones. A new series of human leukocyte elastase inhibitors 6207
Alper H. see Grushin V. V. 3349
Alper H. see Lee J.-T. 1769
Alphand V. see Königsberger K. 499
Alsters P. L. Boersma J. and **van Koten G.** Direct alkoxylation of organopalladium compounds based on a new type of C-O coupling mediated by molybdenum peroxides 675
Altamura A. Fusco C. D'Accolti L. Mello R. Prencipe T. and **Curci R.** Oxidation of catechol and of 2,6-di-*tert*-butylphenol by dioxiranes 5445
Altenburger J. M. and **Schirlin D.** General synthesis of polyfunctionalized fluoromethyleneketone retro-amides as potential inhibitors of thrombin 7255
Alvarez E. Rodríguez M. L. Zurita D. and **Martín J. D.** A unified stereochemical model for the polyepoxide cyclization route to marine polyether toxins 2253
Alvarez E. Díaz M. T. Pérez R. and **Martín J. D.** Model studies directed towards microalga polyether toxins. A stereoselective entry into C_8 oxepane subunits 2241
Alvarez E. Zurita D. and **Martín J. D.** Model studies directed towards microalga polyether toxins. A stereoselective entry into C_{10} *cis* and *trans* fused oxane–oxepane subunits 2245
Alvarez-Builla J. see Matia M. P. 7575
Alvarez-Manzaneda R. see Ouazzani J. 647
Alvarez-Manzaneda R. see Ouazzani J. 1983
Alvernhe G. Langlois B. Laurent A. Le Drean I. Selmi A. and **Weissenfels M.** Synthesis of β-chloro(trifluoromethyl)acroleins and a specific reaction towards β-aminothiols 643
Alves A. J. see Chu C. K. 3791
Amann T. and **Zenk M. H.** Formation of the morphine precursor salutaridine is catalyzed by a cytochrome P-450 enzyme in mammalian liver 3675
Amoroso R. Cardillo G. and **Tomasini C.** 1,3-Asymmetric induction: highly enantioselective synthesis of α-amino acids via 2,5-*trans* disubstituted imidazolidin-4-ones 1971
Amougay A. see Piva O. 3993
Amouroux R. and **Ejjiyar S.** A stereospecific route to functionalized alkenes from tetrahydrofurfurylic acetates. Synthesis of pheromones 3059
Amyes T. L. see Richard J. P. 4255
Anastasia M. see Allevi P. 6927
Anastasiou D. Chaouk H. and **Jackson W. R.** A metal catalysed route to benzimidazoles containing a fused alicyclic ring 2499
Andersen R. J. see de Silva E. D. 2707
Andersen R. J. see Needham J. 315
Andersen S. O. Jacobsen J. P. Roepstorff P. and **Peter M. G.** Catecholamine–protein conjugates: isolation of an adduct of N-acetylhistidine to the side chain of N-acetyldopamine from an insect-enzyme catalyzed reaction 4287
Andersh B. see Kraus G. A. 2189
Anderson C. B. see Pegram J. J. 2197
Anderson K. S. see Pansegrau P. D. 2589
Anderson L. G. see Smit W. A. 2105
Anderson M. B. Lamothe M. and **Fuchs P. L.** Intramolecular acylation of an α-sulfonyl anion generated via halogen-metal exchange of an α-halosulfone bearing an unsymmetrical anhydride 4457
Anderson R. C. see Bajwa J. S. 1758
Anderson R. C. see Bajwa J. S. 3021
Anderson W. K. see Gopalsamy A. 4669
Ando D. J. see Abarca B. 4977
Ando M. see Kawagishi H. 4561
Ando R. see Isaka M. 1339
Ando T. Bauchat P. Foucaud A. Fujita M. Kimura T. and **Sohmiya H.** Sonochemical switching from ionic to radical pathways in the reactions of styrene and *trans*-β-methylstyrene with lead tetraacetate 6379
Ando T. Suzuki Y. Geka R. Irie K. Koshimizu K. Takemura T. Nakajima S. and **Sakata I.** New water-soluble pyropheophorbide a derivatives as possible agents for photodynamic therapy of cancer 5107
Ando W. see Akasaka T. 6605
Ando W. see Akasaka T. 7695
Ando W. see Choi N. 4573
André B. Boyer B. Lamaty G. and **Roque J.-P.** Corrigendum 4056
André B. Boyer B. Lamaty G. and **Roque J.-P.** Efficient catalytic activity of polymerized micelle-forming surfactants 1881
Andreu C. see Asensio G. 4197
Andrew S. S. see Phillion D. P. 3621
Andrews J. F. P. and **Regan A. C.** Nazarov cyclisation of dienone-esters and tetrahydropyrones using trimethylsilyltriflate 7731
Andriamialisoa R. Z. see Langlois N. 3057
Andrulis, III P. J. see Myles D. C. 4835
Andrus A. see McCollum C. 4069
Angara G. J. and **McNelis E.** α-Haloenones from secondary alkynols 2099
Angenot L. see Quetin-Leclercq J. 4295
Angers P. see Canonne P. 5861
Angle S. R. and **Arnaiz D. O.** Synthesis of 1,2-dihydronaphthalenes and spiro[4.5]-deca-3,6,9-trien-8-ones from benzylic alcohols 2327
Anjeh T. E. N. see Posner G. H. 6489
Annunziata R. Cinquini M. Cozzi F. Giaroni P. and **Raimondi L.** The diastereoselectivity of intermolecular nitrone

cycloaddition to chiral allyl derivatives 1659
Ansell M. F. Caton M. P. L. and **Ugwuegbulam C. O.** Synthesis of a dioxabicyclooctane analogue of thromboxane A2 4599
Anthoni U. Bock K. Christophersen C. Duus J. Ø. Kjær E. B. and **Nielsen P. H.** Structure of a novel antifouling epoxy cembrenoid diterpene from a *Sarcophyton* sp. 2825
Anthoni U. Nielsen P. H. and **Christophersen C.** Structure of an ascidian peroxide. A revision 7303
Anthoni U. see Hougaard L. 3577
Anthony J. and **Diederich F.** Biphenyldialkylsilyl chlorides: reagents for the formation of crystalline derivatives of small terminal alkynes 3787
Antonakis K. see Herscovici J. 1183
Antonakis K. see Herscovici J. 1791
Antonioletti R. Bonadies F. Monteagudo E. S. and **Scettri A.** Lithium iodide-catalyzed conjugate addition of β-dicarbonyl compounds 5373
Anwer M. K. see Kaestle K. L. 327
Aoki M. Itezono Y. Shirai H. Nakayama N. Sakai A. Tanaka Y. Yamaguchi A. Shimma N. Yokose K. and **Seto H.** Structure of a novel phospholipase C inhibitor, vinaxanthone (Ro 09-1450), produced by *Penicillium vinaceum* 4737
Aoki M. Ohtsuka T. Itezono Y. Yokose K. Furihata K. and **Seto H.** Structure of cyclothiazomycin, a unique polythiazole-containing peptide with renin inhibitory activity-I. Chemistry and partial structures of cyclothiazomycin 217
Aoki M. Ohtsuka T. Itezono Y. Yokose K. Furihata K. and **Seto H.** Structure of cyclothiazomycin, a nunique polythiazole-containing peptide with renein inhibitory activity-II. Total structure 221
Aoki M. see Fujiwara S. 3503
Aoki M. see Togo H. 6559
Aonuma S. see Komatsu K. 6767
Aoto H. see Tono M. 4023
Aouf N. Dewynter G. et **Montero J.-L.** Synthèse et cyclisation de carboxylsulfamides dérivés d'aminoacides 6545
Aoyagi S. Shishido Y. and **Kibayashi C.** Total synthesis of (–)-nupharamine and (+)-3-epinupharamine via asymmetric nitroso Diels–Alder reaction 4325
Aoyama Y. see Motomura T. 4757
Aoyama Y. Urabe H. and **Sato F.** A new preparative route to chiral 2,3-epoxy-1,4-butanediols 6731
Aparicio D. see Palomo C. 3115
Apitz G. and **Steglich W.** Conversion of serine and threonine residues into α-acyloxy-, α-alkythio-, and α-halogenoglycine moieties: a new strategy for the modification of peptides 3163
Aracil J.-M. Badre A. Fadli M. Jeanty G. Banaigs B. Francisco C. Lafargue F. Heitz A. et **Aumelas A.** Nouveaux cyclotétrapeptides isolés de l'ascidie *Cystodytes delle chiajei* 2609
Aracil J.-M. see Fadli M. 2477
Arai K. see Miyaji K. 4557
Arai K. see Nakatani K. 3405
Araki K. Wichtowski J. A. and **Welch J. T.** The stereoselective synthesis of 3-fluoro-azetidinones 5461
Araki S. Sakakibara K. Hirota M. Nishio M. Tsuzuki S. and **Tanabe K.** Theoretical study of CH-π interaction. Significant enhancement of CD spectra due to the participation of CH-π interaction 6587
Aranda G. Lallemand J.-Y. Hammoumi A. and **Azerad R.** Microbial hydroxylation of sclareol by *Mucor plumbeus* 1783
Ardisson J. see Dalkafouki A. 5325
Arias J. M. see García-Granados A. 5383
Arif A. M. see Huang Y. 3900
Arif A. M. see Huang Y. 899
Arihara S. see Kakuno T. 3535
Arihara S. see Yoshikawa K. 7059
Arihara S. see Yoshikawa K. 789
Arimura T. Matsumoto S. Teshima O. Nagasaki T. and **Shinkai S.** Calixarene-based molecular capsule 5111
Arison B. H. see Thompson K. L. 3337
Ariza J. Font J. and **Ortuño R. M.** An efficient and concise entry to (-)-4,5-dihydroxy-D-*threo*-L-norvaline. Formal synthesis of clavalanine 1979
Arjona O. de Dios A. de la Pradilla R. F. and **Plumet J.** Highly diastereoselective bis-hydroxylation of a protected conduritol B: a short route to *myo*-inositol derivatives 7309
Armstrong R. W. see Moran E. J. 3807
Armstrong R. W. see Zhao Z. 1609
Armstrong R. W. and **DeMattei J. A.** Stereoselective methylations of bicyclic lactams derived from pyroglutamic acid 5749
Armstrong S. K. Warren S. Collington E. W. and **Naylor A.** Stereocontrolled synthesis of homoallylic amines using phosphine oxides and isoxazolines 4171
Arnaiz D. O. see Angle S. R. 2327
Arnoldsson K. C. and **Wachtmeister C. A.** Oxidative coupling of 4,5,6-trichloroguaiacol with iron(III) hexacyanoferrate(III) 543
Arnouts E. G. see Lange J. H. M. 3127
Arora P. K. and **Sayre L. M.** Copper-ammonia mediated oxidation of carbonyl compounds 1007
Arques A. see Molina P. 2521
Arques A. see Molina P. 2979
Arques A. see Molina P. 4401
Arsénlyadis S. Ouazzani J. Rodriguez R. Rumbero A. and **Ourisson G.** Biohydroxylations of hydrindenone derivatives 3573
Arseniyadis S. see Ouazzani J. 647
Arsénlyadis S. see Ouazzani J. 1983
Art J. F. Kestemont J. P. and **Soumillion J. Ph.** Photodetosylation of sulfonamides initiated by electron transfer from an anionic sensitizer 1425
Arumugam N. see Selvaraj S. 7469
Arya P. Lesage M. and **Wayner D. D. M.** Tris(trimethylsilyl)silane (TTMSS): formation of carbon-centered radicals from oxathiolane and thiazolidine derivatives 2853
Arya P. and **Wayner D. D. M.** Thiazolidine derivatives: a new source of α-aminoalkyl radicals for carbon–carbon bond formation in synthesis 6265
Asami M. Krieger C. and **Staab H. A.** New orthopara- and orthometacyclophanes 2117
Asao T. see Ito S. 773
Asaoka M. Sakurai M. and **Takei H.** Enantioselective synthesis of (+)-magydardienediol 7567
Asensio G. Andreu C. and **Marco J. A.** Enzyme-mediated enantioselective acylation of secondary amines in organic solvents 4197
Ashino T. see Nakamura A. 4355

Ashley D. see Smith M. J. 991
Ashton P. R. Grognuz M. Slawin A. M. Z. Stoddart J. F. and **Williams D. J.** The template-directed synthesis of a [2]rotaxane 6235
Asseline U. see Hau J. F. 2497
Astleford B. and **Weigel L. O.** Scope of phthalimido chemistry—I. Extension of utility by conversion to the OPCB protecting group 3301
Aßmann L. Debaerdemaeker T. und **Friedrichsen W.** Synthese eines Oxepino[2,3-*d*]isoxazol-Systems 1161
Attinà M. and **Ricci A.** Gas-phase alkylation of fluorobenzene and substituted fluorobenzenes by $(CH_3)_2F^+$ ions 6775
Attwood M. R. Churcher I. Dunsdon R. M. Hurst D. N. and **Jones P. S.** Synthesis of the potent potassium channel opener Ro 31-6930 via Claisen rearrangement and tandem regiocontrolled cyclisation 811
Attygalle A. B. Meinwald J. and **Elsner T.** Biosynthesis of methacrylic acid and isobutyric acids in a carabid beetle, *Scarites subterraneus* 4849
Aubé J. see Baldwin S. W. 4431
Auberson Y. Bimwala R. M. and **Vogel P.** Substituent effects on the regioselectivity of one-carbon ring expansions of 7-oxabicyclo[2.2.1]heptan-2-one derivatives with diazomethane 1637
Aubry A. see Lecoq A. 2765
Aubry J.-M. see Carissimo-Rietsch F. 3845
Audhya T. K. see Kaestle K. L. 327
Audia J. E. and **Colocci N.** Indolyl participation in the Mitsunobu reaction: retention of stereochemistry 3779
Audin C. see Prandi J. 769
Aufrand M. see Mercier C. 1433
Augé J. see Lubineau A. 7529
Augelli-Szafran C. E. see Wilson S. R. 2339
Aumelas A. see Aracil J.-M. 2609
Aurrekoetxea N. see Palomo C. 2525
Austin D. J. see Padwa A. 4103
Austin D. J. see Padwa A. 5923
Avalos M. Babiano R. Cintas P. Jiménez J. L. Molina M. M. Palacios J. C. and **Sánchez J. B.** Diastereofacial selectivity in Diels–Alder reactions of chiral 1,2-diaza-1,3-butadienes derived from carbohydrates 2513
Awen B. Z. see Kato M. 7439
Awen B. Z. see Kato M. 7443
Ayer S. W. McInnes A. G. Thibault P. Walter J. a. Douli J. L. Parnell T. and **Vining L. C.** Jadomycin, a novel 8*H*-benz[*b*]oxazolo[3,2-*f*]phenanthridine antibiotic from *Streptomyces venezuelae* ISP5230 6301
Ayers T. A. see Crandall J. K. 3659
Ayyangar N. R. see Kasar R. A. 1599
Azerad R. see Aranda G. 1783
Azerad R. see Hammoumi A. 651
Azerad R. see Trigalo F. 3049
Azhayev A. see Zavgorodny S. 7593
Aznar F. see Barluenga J. 3205

Baba A. see Nagaoka H. 6741
Baba N. see Soufiaoui M. 3699
Baba Y. see Inanaga J. 5559
Babiano R. see Avalos M. 2513
Bach T. 3-Trimethylsilyloxy-oxetanes via a highly selective Paterno–Büchi reaction 7037
Baciocchi E. Muraglia E. and **Sleiter G.** Intramolecular selectivity in the side-chain oxidation of alkylbenzenes under Gif^{IV} conditions 2647
Back T. G. Blazecka P. G. and **Krishna M. V.** A concise synthesis of the brassinolide side chain 4817
Back T. G. Chau J. H.-L. and **Morzycki J. W.** A novel stereospecific rearrangement of 3-substituted B-homo-5-azasteroid lactams to A-nor analogues 6517
Bäckvall J.-E. Karlsson U. and **Chinchilla R.** Synthesis of 2-nitro 1,3-dienes. Useful intermediates in the preparation of unsaturated 1,4-dicarbonyl compounds 5607
Badache L. see Rahal S. 3847
Badaoui E. see Krief A. 3231
Badawi M. M. see Comins D. L. 2995
Badawy D. S. see Elmorsy S. S. 5421
Badre A. see Aracil J.-M. 2609
Badrudin see Mercier A. 2125
Baggaley K. H. see Marples B. A. 533
Bailey M. Markó I. E. and **Ollis W. D.** On the metal-catalysed epoxidation of electron-deficient olefins 2687
Bailey P. D. and **McLay N. R.** Asymmetric synthesis of indole alkaloids from (L)-tryptophan: formal syntheses of (-)-koumine, (-)-taberpsychine and (-)-koumidine 3895
Bailey P. L. and **Jackson R. F. W.** Nucleophilic addition–elimination reactions of *N*-(*p*-tolylsulphonyl)vinylsulphoximines: preparationof α-methylene nitriles and phosphonates 3119
Bailey W. F. and **Zarcone L. M. J.** The conversion of 4-oxa-5-hexenyllithiums to 4-alken-1-ols: a novel [1,4]-Wittig rearrangement 4425
Bailey W. J. and **Zhou L.-L.** A new elimination with phase-transfer catalysis for cyclic ketene acetals 1539
Bains S. Pagni R. M. and **Kabalka G. W.** Cycloaddition reactions of dimethyl maleate and fumarate with cyclopentadiene on γ-alumina. Competing mechanisms for epimerization of the Diels-Alder adducts 5663
Bajwa J. S. and **Anderson R. C.** A highly regioselective conversion of epoxides to halohydrins by lithium halides 3021
Bajwa J. S. and **Anderson R. C.** Corrigendum 1758
Baker D. L. see Larson A. L. 5893
Baker W. R. see Wittenberger S. J. 7655
Bakthavatchalam R. see Wei Y. 1535
Balasubramanian K. K. see Balasubramanian T. 6641
Balasubramanian K. K. see Dhanalekshmi S. 7591
Balasubramanian K. K. see Ramesh N. G. 3875
Balasubramanian K. K. see Santhosh K. C. 7727
Balasubramanian S. and **Abell C.** The synthesis of (6*R*)-[6-^{2}H]- and (6*S*)-[6-^{2}H]5-enolpyruvylshikimate-3-phosphate 963
Balasubramanian T. and **Balasubramanian K. K.** Mercury(II) trifluoroacetate-mediated cyclisation of aryl allenic ethers 6641
Balavoine G. Barton D. H. R. Gref A. and **Lellouche I.** The insertion of sulfur into the non-activated C-H bond. A possible model for penicillin cyclase and biotin synthase 2351
Balci M. see Durucasu I. 7097
Baldwin J. E. Adlington R. M. and **Kang T. W.** Direct ring expansion of penicillins to 3-exomethylene cephalosporins 7093
Baldwin J. E. Moloney M. G. and **Shim S. B.** (L)-Pyroglutamic acid as a chiral starting material for asymmetric synthesis 1379

Baldwin S. W. Greenspan P. Alaimo C. and **McPhail A. T.** Diastereoselective Diels-Alder reactions between substituted 1,3-butadienes and N-α-methylbenzylmaleimide 5877
Baldwin S. W. McFadyen R. B. Aubé J. and **Wilson J. D.** Diastereoselectivity in the intramolecular cycloaddition reactions of nitrones derived from 5-alkenals and chiral hydroxylamines 4431
Baldwin S. W. and **McIver J. M.** Stereochemistry of the reactions of some 'CH_3-' nucleophiles with 2-(tetrahydrofur-2'-yl)-acetaldehyde 1937
Balkadjian M. see Tronchet J. M. J. 4129
Ball R. G. see Singh S. B. 5279
Ballester P. see Garcías X. 7739
Ballesteros R. see Abarca B. 4977
Balme G. see Bouyssi D. 1641
Balme G. see Bouyssi D. 6541
Balme G. see Monteiro N. 1645
Balogh D. W. see Borer B. C. 1039
Baltas M. see Escudier J.-M. 5345
Bambino F. Brownlee R. T. C. and **Chiu F. C. K.** Facile synthesis of protected dipeptide acids containing C-terminal α,α-dialkyl amino acids 3407
Bamford M. J. Humber D. C. and **Storer R.** Synthesis of (±)-2'-oxa-carbocyclic-2',3'-dideoxynucleosides as potential anti-HIV agents 271
Ban M. see Hashimoto S. 4027
Banaigs B. see Aracil J.-M. 2609
Banaigs B. see Fadli M. 2477
Banerji A. Deshpande A. D. and **Pradhan P.** Structure of zeyloxanthonone (wightianone)–a reinvestigation 4995
Banfi L. see Guanti G. 267
Banfi L. see Guanti G. 6939
Banfi L. see Guanti G. 6943
Bank S. and **Jewett R.** On the mechanism of the clay catalyzed reaction of benzylamine 303
Bannwarth W. and **Knorr R.** Formation of carboxamides with N, N, N', N'-tetramethyl (succinimido) uronium tetrafluoroborate in aqueous/organic solvent systems 1157
Bansal R. K. Sarma D. C. and **Mahnot R.** Synthesis of new functionalized dichlorophosphines: precursors of dicoordinated phosphorus heterocycles 6433
Baraldi D. see Sartori G. 2153
Baraldi P. G. see Aghazade Tabrizi M. 683
Baraniak J. and **Stec W. J.** Electrophilic catalysis of N→O phosphyl migration 137
Baraniak J. and **Stec W. J.** N-Benzoyl O,O-dialkyl phosphoranilidates: reaction with O- and N- nucleophiles 4193
Baranne-Lafont J. see Cossy J. 1315
Barany G. see Albericio F. 1015
Barbalat-Rey F. see Tronchet J. M. J. 4129
Barbe J. Boyer G. Cariganano I. Elguero J. Galy J.-P. Morel S. and **Oughedani R.** Thiazolo [5,4-*a*] acridines 6709
Barbeaux P. see Krief A. 2509
Barbeaux P. see Krief A. 417
Barco A. Benetti S. Pollini G. P. Spalluto G. and **Zanirato V.** Generation and cycloaddition reactions of 3-substituted-2-nitro-1,3-dienes 2517
Barili P. L. Berti G. Catelani G. and **D'Andrea F.** A simple stereospecific route to 5-C-alkoxy-D-galactopyranosides and to L-*arabino*-hexos-5-uloses 959
Barili P. L. Berti G. Catelani G. and **D'Andrea F.** Corrigendum 2692
Barlaam B. Bolvin J. El Kaim L. and **Zard S. Z.** An expedient total synthesis of (±)-estrone derivatives 623
Barlos K. Chatzi O. Gatos D. Stavropoulos G. und **Tsegenidis T.** Fmoc-His(Mmt)-OH und Fmoc-His(Mtt)-OH, Zwei neue Histidin-Derivate N^{im}-geschützt mit säure-hochempfindlichen Gruppen. Darstellung, Eigenschaften und Einsatz in der Peptidsynthese 475
Barlos K. Gatos D. Koutsogianni S. Schäfer W. Stavropoulos G. und **Wenqing Y.** Darstellung und Einsatz von N-Fmoc-O-Trt-hydroxyaminosäuren zur 'solid phase' Synthese von Peptiden 471
Barluenga J. Aznar F. Fraiz, Jr. S. and **Pinto A. C.** Mercuric ion-induced intramolecular cyclization of 2-amino-4-alkenylamine derivatives. Stereoselective synthesis of 3-amino-pyrrolidines 3205
Barnish I. T. Fishwick C. W. G. and **Hill D. R.** Facile intramolecular cycloadditions of 2-(N-acylamino)-1-thia-1,3-dienes 405
Barr K. J. Watson B. T. and **Buchwald S. L.** Zirconocene(iso-butyl) chloride: *in situ* generation of a zirconocene(methyl) chloride equivalent for use in organic synthesis 5465
Barrans J. see Diallo O. S. 501
Barreau M. see Crozet M. P. 4125
Barret R. and **Daudon M.** Preparation of quinone-imide ketals from amides with hypervalent organo-iodine compounds 2133
Barrett A. G. M. and **Hill J. M.** The synthesis of α-stannyl-silanes and their use in the formation of alkenes 3285
Barron D. see Pabst A. 4885
Barrows L. R. see Swersey J. C. 6687
Barta T. E. see Boeckman, Jr. R. K. 2581
Barta T. E. see Boeckman, Jr. R. K. 4091
Bartels B. see Hunter R. 1095
Barth F. and **O-Yang C.** Cyclization of α,α-difluoromethyl radicals: a new route to the preparation of difluorocyclopentane derivatives 5873
Bartholomew D. and **Stocks M. J.** A novel rearrangement reaction conversion of 3-(chloromethyl)azetidin-2-ones to azetidine-3-carboxylic acid esters 4795
Bartholomew D. and **Stocks M. J.** Intramolecular cyclisation-N-dealkylation of azetidine-3-acetic acids 4799
Bartoli G. Cimarelli c. Palmieri G. Bosco M. and **Dalpozzo R.** Unexpected elimination to α,β-alkynylketones in the reaction of dianions of 1-arylenaminones with trimethylchlorosilane 7091
Barton D. H. R. Bévière S. D. and **Doller D.** An unprecedented chemical transformation: the oxidation of alkanes to alkyl dimethyl phosphates 4671
Barton D. H. R. Chern C.-Y. and **Jaszberenyi J. Cs.** Homologation of acids via carbon radicals generated from the acyl derivatives of N-hydroxy-2-thiopyridone. (The two-carbon problem) 3309
Barton D. H. R. Dalko P. and **Gero S. D.** Synthesis of branched-chain cyclitols using a palladium(0)-catalysed allylic coupling reaction 2471
Barton D. H. R. Dalko P. I. and **Géro S. D.** Preparation of six membered carbocycles by aryl-tellurium mediated free-radical cyclisation 4713
Barton D. H. R. Doller D. and **Geletii Y. V.** On the mechanism of carbon-hydrogen activation in Gif-type reactions. Kinetic

isotopic effects in pyridine solution 3811
Barton D. H. R. Eaton P. E. and Liu W.-G. Regiospecific functionalization of Binor S by a Gif type oxidation system 6263
Barton D. H. R. Jaszberenyi J. Cs. and Morrell A. I. The generation and reactivity of oxygen centered radicals from the photolysis of derivatives of N-hydroxy-2-thiopyridone 311
Barton D. H. R. Jang D. O. and Jaszberenyi J. Cs. Towards dideoxynucleosides: the silicon approach 2569
Barton D. H. R. Jang D. O. and Jaszberenyi J. Cs. Radical mono- and dideoxygenations with the triethylsilane + benzoyl peroxide system 7187
Barton D. H. R. Jaszberenyi J. Cs. and Tachdjian C. Olefin synthesis by radical methods from xanthate, selenobenzoate and thionocarbonate derivatives of β-hydroxy sulfones 2703
Barton D. H. R. Jaszberenyi J. Cs. and Theodorakis E. A. O-Sulfinylation with methanesulfonyl cyanide or *p*-toluenesulfonyl cyanide and DBU^+ 2585
Barton D. H. R. Jaszberenyi J. Cs. and Theodorakis E. A. Radical nitrile transfer with methanesulfonyl cyanide or *p*-toluenesulfonyl cyanide to carbon radicals generated from the acyl derivatives of N-hydroxy-2-thiopyridone 3321
Barton D. H. R. see Balavoine G. 2351
Bârzu O. see Sarfati R. S. 4699
Basavaiah D. and Bharathi T. K. Enantioselective synthesis of α- and β-hydroxy acids using *trans*-2-phenylcyclohexan-1-ol as chiral auxiliary 3417
Basha A. Ratajczyk J. D. and Brooks D. W. Addition of organolithium compounds to N-THP protected nitrone 3783
Basha A. see Kerdesky F. A. J. 2003
Basha F. Z. McClellan W. J. and DeBernardis J. F. Diastereoselection in the intramolecular Diels–Alder reaction of *o*-quinodimethanes 5469
Basu M. K. see Ranu B. C. 3243
Basu M. K. see Ranu B. C. 4177
Bates R. W. Fernández-Moro R. and Ley S. V. Synthesis of the β-lactone esterase inhibitor valilactone using π-allyltricarbonyliron lactone complexes 2651
Bateson J. H. Kaura A. C. and Southgate R. Ozonolysis of ethylidene azetidinones; ozonide fragmentation to α-amino acid-N-carboxyanhydrides 2065
Batey R. A. and Motherwell W. B. Samarium(II) iodide promoted radical ring opening reactions of cyclopropyl ketones 6211
Batey R. A. and Motherwell W. B. Samarium(II) iodide promoted radical ring opening reactions of cyclopropyl ketones 6649
Batra M. S. see Brunet E. 5423
Bats J. W. see Quinkert G. 3357
Battioni P. Brigaud O. Desvaux H. Mansuy D. and Traylor T. G. Preparation of functionalized polyhalogenated tetraarylporphyrins by selective substitution of the *p*-fluorines of *meso*-tetra-(pentafluorophenyl)porphyrins 2893
Battiste M. A. Strekowski L. Coxon J. M. Wydra R. L. and Harden D. B. Highly stereoselective rearrangement of (*E,E*)-suspensolide to anastrephin and epianastrephin 5303
Bauchat P. see Ando T. 6379
Bauder C. Ocampo R. and Callot H. J. Total synthesis of chlorophyll *c* fossils and related petroporphyrins 2537
Baudin J. B. Hareau G. Julia S. A. and Ruel O. A direct synthesis of olefins by reaction of carbonyl compounds with lithio derivatives of 2-[alkyl- or (2'-alkenyl)- or benzyl-sulfonyl]-benzothiazoles 1175
Bauer W. and Zenk M. H. Formation of (*R*)-configurated tetrahydroprotoberberine alkaloids in *vivo* and *in vitro* 487
Baumann F. and Würthwein E.-U. Reactions of 1-aza-pentadienyl anions with Michael acceptors: regiochemistry 4683
Baumann K. see Edmunds A. J. F. 7039
Baumann L. und Seitz G. Eine neue Umlagerung eines Cycloocta[*d*]pyridazins zum Barreleno[*d*]-pyridazin 5949
Baumgarten M. see Alexander J. 735
Baumgartner H. Marschner C. Pucher R. and Griengl H. General synthesis of carbanucleosides via regiospecific epoxide opening by the aglycone 611
Beach J. W. see Chu C. K. 3791
Beau J.-M. see Crévisy C. 3171
Beau J.-M. see Petit J.-M. 6125
Beau J.-M. see Prandi J. 769
Beaucourt J.-P. see Gigou A. 635
Beaudet I. Parrain J.-L. and Quintard J.-P. Regio- and stereocontrolled stannylmetallation of 3,3-diethoxy-prop-1-yne and 4,4-diethoxy-but-1-yne: an efficient access to the corresponding vinyltins with fixed configurations 6333
Beaulieu P. L. Diastereospecific synthesis of D- and L-*allo*-threonines and trichlorinated derivatives suitable for the preparation of tritium labelled material 1031
Beaupère D. see Belkhouya N. 3977
Becher J. see Dehaen W. 3565
Becker H. see Quinkert G. 7397
Beckwith A. L. J. and Davison I. G. E. Diastereoselective formation of cyclic carbonates by cyclization of alkenyloxycarbonyloxy radicals 49
Bedel C. and Foucaud A. Synthesis and oxidation of 1,2 λ^5-azaphosphinines 2619
Bedeschi A. see Cabri W. 1753
Bednarski M. D. see Hill T. G. 6823
Bednarski M. D. see Lamberth C. 7369
Bednarski M. D. see Nagy J. O. 3953
Bednarski M. D. see Wang P. 6827
Beeley N. R. A. see Alexander R. P. 3269
Beisswenger R. Snatzke G. Thiem J. and Kula M.-R. Enzyme-catalyzed aldol reactions with 3-hexulose phosphate synthase 3159
Bekker A. R. see Kononenko G. P. 1893
Belguise A. see Raban M. 35
Bellën J. J. A. see Verduyn R. 6637
Belikova N. A. see Bobylyova A. A. 6429
Belkasmioui A. and Simonet J. *ortho*-Bis (alkylsulphonyl) benzenes: the fate of their electrochemically formed anion radical: $S_{RN}2$ versus cleavage reaction 2481
Belkhouya N. Fréchou C. Benazza M. Beaupère D. Uzan R. et Demailly G. Halogénation sélective en C-6 de 2-amino-2-désoxy-D-glycopyranoses 3977
Bellamy F. see Stoller A. 495
Bellassoued M. and Majidi A. Total synthesis of queen substance of honeybee using an organosilicon route 7253
Belle C. Cardelli A. and Guarna A. Sequential

rearrangement–annulation of isoxazoline-5-spirocyclopropanes. Total synthesis of (±) $\Delta^{9(11)}$-19-nor-10-aza-testosterone 6395
Beller M. see Ogino Y. 5761
Belletire J. L. see Fremont S. L. 2335
Belloch J. see Virgili M. 4583
Belloch J. Virgili M. Moyano A. Pericàs M. A. and **Riera A.** Bis(*tert*-butylsulfonyl)acetylene as a general synthetic equivalent of alkynes in Diels-Alder chemistry–I. Highly selective reduction and alkylating monodesulfonylation of Z-1,2-bis(*tert*-butylsulfonyl)ethenes 4579
Bellosta V. see Cossy J. 1315
Belyasmine A. see Salle M. 2897
Benammar Y. see Berthelot J. 4135
Benazza M. see Belkhouya N. 3977
Bénéchie M. Skrydstrup T. and **Khuong-Huu F.** From disubstituted acetylenes to trisubstituted olefins. An application 7535
Benetti S. see Barco A. 2517
Benner S. A. see Jenny T. F. 7029
Benson S. C. and **Snyder J. K.** Optically pure chiral sulfoxides using ephedrine as a chiral auxiliary 5885
Bentrude W. G. see Huang Y. 3900
Bentrude W. G. see Huang Y. 899
Benz G. A. see Gable K. P. 3473
Berchadsky Y. see Mercier A. 2125
Berg M. A. G. see Jois Y. H. R. 2997
Bergbreiter D. E. Morvant M. and **Chen B.** Catalytic cyclopropanation with transition metal salts of soluble polyethylene carboxylates 2731
Berger A. see Gradnig G. 4889
Bergstrom D. E. and **Zhang P.** An efficient route to C-4 linked imidazole nucleosides: synthesis of 2-carbamoyl-4-(2'-deoxy-β-D-ribofuranosyl)imidazole 6485
Berkowitz D. B. and **Danishefsky S. J.** Enzymatic resolution of racemic glycals: an application of the Wong acylation method 5497
Beri V. see Solladié G. 6329
Berlan J. Giboreau P. Lefeuvre S. et **Marchand C.** Synthèse organique sous champ microondes: premier exemple d'activation spécifique en phase homogène 2363
Berlan J. see Etemad-Moghadam G. 5965
Bernabé M. see de Frutos Mª P. 541
Bernabé P. see Roos E. C. 6633
Bernard H. Yaouanc J. J. Clément J. C. des Abbayes H. and **Handel H.** General route for the synthesis of mono N-alkylated derivatives of tetraazamacrocycles 639
Bernardi A. Capelli A. M. Comotti A. Gennari C. and **Scolastico C.** A computational study of the 1,4-addition of lithium enolates to conjugated carbonyl compounds 823
Bernardinelli G. see Jefford C. W. 7243
Bernardinelli G. see Oppolzer W. 61
Bernotas R. C. and **Cube R. V.** The use of triphenylphosphine/diethyl azodicarboxylate (DEAD) for the cyclization of 1,4- and 1,5-amino alcohols 161
Bernstein E. R. see Li S. 3945
Bernstein M. A. see Gillard J. W. 1145
Berry P. D. Brown A. C. Hanson J. C. Kaura A. C. Milner P. H. Moores C. J. Quick J. K. Saunders R. N. Southgate R. and **Whittall N.** A convenient large scale synthesis of 7α-formamido cephalosporins 2683
Berson J. A. see Haider K. W. 5305
Berthelot J. Benammar Y. and **Lange C.** A mild and efficient sonochemical bromination of alkenes using tetrabutylammonium tribromide 4135
Bertho J.-N. Loffet A. Pinel C. Reuther F. and **Sennyey G.** Amino acid fluorides: their preparation and use in peptide synthesis 1303
Berti G. see Barili P. L. 2692
Berti G. see Barili P. L. 959
Besenyei G. Németh S. and **Simándi L. I.** Synthesis of arylsulfonylcarbamic acid derivatives using a new, phosgene-free method 5833
Besidsky E. see Zavgorodny S. 7593
Bestmann H. J. and **Lehnen H.** Synthese und Reaktionen des N-Phenyl-bis(diethylphosphonato)-ketenimins 4279
Bettiol J.-L. Buck I. Husson H.-P. Grierson D. S. Diez A. and **Rubiralta M.** 'Tandem' reactivity of 2-cyano-Δ^3-piperideines: a new approach to the synthesis of ervatamine type indole alkaloids 5413
Bettiol J.-L. Husson H.-P. Grierson D. S. Diez A. and **Rubiralta M.** 'Tandem' reactivity of 2-cyano-Δ^3-piperideines—II. Endocyclic versus exocyclic iminium ion reactions 7449
Beugelmans R. and **Chastanet J.** Synthesis of fluorinated biaryl derivatives via $S_{RN}1$ reactions 3487
Bévière S. D. see Barton D. H. R. 4671
Beye N. Wegner R. Richter A. M. and **Fanghänel E.** Organic electronic conductors and precursors-XII. Synthesis of novel dibenzotetrathiafulvalenes 479
Bhakuni D. S. see Suryawanshi S. N. 1519
Bhalerao U. T. see Pandey G. 5147
Bhamare N. K. Granger T. John C. R. and **Yates P.** The synthesis of homoisotwistanes by the tandem Wessely oxidation-Diels-Alder reaction sequence 4439
Bhar S. see Ranu B. C. 2811
Bharathi T. K. see Basavaiah D 3417
Bhaskar K. V. Chu W.-L. A. Gaskin P. A. Mander L. N. Murofushi N. Pearce D. W. Pharis R. P. Takahashi N. and **Yamaguchi I.** Structure determination and synthesis of a new trihydroxy gibberellin from *Brassica campetris* cotyledons and a related tetrahydroxy derivative from immature seeds of *Prunus persica* 6203
Bhat N. G. see Brown H. C. 3655
Bhatia S. K. see Kim U. T. 6521
Bhattacharyya D. see Ranganathan S. 5615
Bhosale D. K. see Kusurkar R. S. 3199
Biali S. E. see Grynszpan F. 1909
Biali S. E. see Grynszpan F. 5155
Biard J. F. see Malochet-Grivois C. 6701
Bicchierini N. Cavazza M. Nucci L. Pergola F. and **Pietra F.** Halogenated *p*-quinols of marine sponges. Synthesis via anodic oxidation of phenols and NHI-like rearrangement 4039
Bied C. see Collin J. 629
Bielfeldt T. see Peters S. 5067
Bielmann J.-F. see Lambs L. 2637
Bigge C. F. Wu J.-P. and **Drummond J. R.** Synthesis of 6-phosphonoalkyl tetrahydro-4-pyrimidinecarboxylic acids as NMDA receptor antagonists 7659

Bigi F. see Sartori G. 2153
Billeret D. Blondeau D. and **Silwa H.** Synthesis of fundamental heterocycles C_5O-C_5N: 2H-pyrano[3,2-*b*] pyridine and 2H-pyrano[2,3-*c*] pyridine 627
Bimwala R. M. see Auberson Y. 1637
Bimwala R. M. and **Vogel P.** Synthesis of α-(1→3)- and α-(1→4)-linked C-disaccharides using (+)-7-oxabicyclo[2.2.1]hept-5-en-2-one ('naked sugar') 1429
Biondi L. see Filira F. 7463
Birberg W. and **Lönn H.** α-Selectivity and glycal formation are temperature dependent in glycosylation with sialic acid. Synthesis of a Neu5Acα(2–6)Gal thioglycoside building block 7453
Birberg W. and **Lönn H.** Glycosylation with sialic acid at HO-3 of three different O-protected D-galactosides in acetonitrile/dichloromethane at low temperature 7457
Bird C. W. and **Dotse A. K.** A new aspect of the Bayer-Villiger oxidation of 1,3-dicarbonyl compounds 2413
Birgersson C. see Tanner D. 2533
Birkinshaw S. and **Kocienski P.** 1,2-Metallate rearrangements of α-alkoxyvinyl borates 6961
Bishop J. E. see Dauben W. G. 4643
Bissell R. A. de Silva A. P. Fernando W. T. M. L. Patuwathavithana S. T. and **Samarasinghe T. K. S. D.** Fluorescent PET (photoinduced electron transfer) indicators for solvent polarity with quasi-step functional response 425
Bissolino P. see Alpegiani M. 3883
Bissolino P. see Alpegiani M. 6207
Black D. St. C. Craig D. C. and **Kumar N.** Acid-catalysed reaction of activated indoles with methyl ketones 1587
Black F. M. see Donald D. K. 1375
Black T. H. McDermott T. S. and **Brown G. A.** A facile 3-alkyl butenolide annulation sequence 6501
Blackburn G. M. and **Langston S. P.** Novel P^1, P^2-substituted phosphonate analogues of 2'-deoxyadenosine and 2'-deoxythymidine 5'-triphosphates 6425
Blanco L. see Djerourou A.-H. 6325
Blaney W. M. see Cork A. 129
Blazecka P. G. see Back T. G. 4817
Blechert S. and **Wirth T.** Nucleophilic additions to acceptor-substituted 2-vinylindoles 7237
Blewitt J. see Sarneski J. E. 1153
Blizzard T. Bostrom L. Margiatto G. Mrozik H. and **Fisher M.** Conversion of avermectin B_1 to 19-*epi*-avermectin B_1 2723
Blizzard T. A. Margiatto G. Mrozik H. Schaeffer J. M. and **Fisher M. H.** Chemical modification of paraherquamide—III. Vinyl ether modified analogs 2437
Blizzard T. A. Margiatto G. Mrozik H. Schaeffer J. M. and **Fisher M. H.** Chemical modification of paraherquamide—IV. 1-N-Substituted analogs 2441
Blondeau D. see Billeret D. 627
Blondeau D. see Dennin F. 4307
Bloodworth A. J. and **Korkodilos D.** Mercury(II)-mediated cyclisation of hydroperoxyalkylcyclopropanes: a new route to cyclic peroxides 6953
Bloxham J. and **Dell C. P.** A convenient route to polyfunctionalised indeno[1,2-*b*]pyran derivatives 4051
Blum D. M. see Green K. 2091
Blumbach J. ssee Chatterjee S. 141
Blumenstein J. J. and **Michejda C. J.** Bistriazenes: multifunctional alkylating agents 183
Blunt J. W. see Northcote P. T. 6411
Boatman, Jr. P. D. see Walkup R. D. 3937
Bobylyova A. A. Dubitskaya N. F. Khoroshutin A. V. Pehk T. I. and **Belikova N. A.** The reactions of brexadiene—a new norbornene-like caged diene 6429
Bock K. see Anthoni U. 2825
Bock K. see Peters S. 5067
Bocoum A. Boga C. Savoia D. and **Umani-Ronchi A.** Diastereoselective allylation of chiral imines. Novel application of allylcopper reagents to the enantioselective synthesis of homoallyl amines 1367
Bodalski R. see Janecki T. 6231
Bode M. L. and **Kaye P. T.** A kinetic and mechanistic study of the Baylis-Hillman reaction 5611
Boden N. Borner R. Bushby R. J. and **Clements J.** An unusual sulphur–sulphur, two-centre, three-electron bond 6195
Boeck L. D. see Kirst H. A. 4839
Boeckman, Jr. R. K. Barta T. E. and **Nelson S. G.** Studies directed toward the total synthesis of tetronolide-I. An enantioselective synthesis of the octahydronaphthalene unit 4091
Boeckman, Jr. R. K. Estep K. G. Nelson S. G. and **Walters M. A.** Studies directed toward the total synthesis of tetronolide-II. A stereoselective route to the racemic cyclohexene subunit 4095
Boeckman, Jr. R. K. Kamenecka T. M. Nelson S. G. Pruitt J. R. and **Barta T. E.** C-Phosphorylation of enolates: an alternate route to complex carbonyl-activated phosphonates 2581
Boersma J. see Alsters P. L. 675
Boese R. see Knölker H.-J. 1953
Boesten W. H. J. see Roos E. C. 6633
Boga C. see Bocoum A. 1367
Boger D. L. and **Zhu Y.** Studies on the synthesis of rubrolone: 4π participation of *O*-alkyl α,β-unsaturated oximes in intramolecular [4+2] cycloaddition reactions 7643
Boger J. see Goulet M. T. 6454
Boisvert L. see Guindon Y. 27
Boitrel B. Lecas-Nawrocka A. and **Rose E.** Two probable different Fe-CO geometries in carbonmonoxide myoglobin model systems 2129
Bolvin J. Crépon E. and **Zard S. Z.** Further observations on the thermal stability of N-hydroxy-2-thipyridone esters: improved decarboxylative radical additions to olefins 199
Bolvin J. Elkaim L. Ferro P. G. and **Zard S. Z.** a new practical method for the synthesis of acetylenes 5321
Bolvin J. Fouquet E. and **Zard S. Z.** A new and synthetically useful source of iminyl radicals 4299
Bolvin J. see Barlaam B. 623
Bolvin J. see Newcomb M. 45
Bol K. M. and **Liskamp R. M. J.** Synthesis of alkene dipeptide isosteres employing the Wittig–Still rearrangement 5401
Boldrini G. P. Bortolotti M. Tagliavini E. Trombini C. and **Umani-Ronchi A.** Stereoselective 1,4-hydroboration of acyclic (*E*)-α,β-unsaturated ketones with dialkylboranes. Synthesis of (*Z*)-vinyloxyboranes 1229

Boldt P.-C. Schumacher-Wandersleb M. H. M. G. and **Peter M. G.** Synthesis of N-acetylsugar-β-*trans*-glycosides: facile one-pot trans-glycosylation of epoxypentyl tri-O-acetyl-N-acetylglucosamine 1413
Bolin G. see Corriu R. J. P. 4121
Bollinger B. see Gmeiner P. 5927
Bollmann C. see Dehmlow E. V. 5773
Bolte J. see Demuynck C. 5085
Bonadies F. see Antonioletti R. 5373
Bonfils E. and **Thuong N. T.** Solid phase synthesis of 5', 3'-bifunctional oligodeoxyribonucleotides bearing a masked thiol group at the 3'-end 3053
Bonini B. F. Masiero S. Mazzanti G. and Zani P. [4+2]-Cycloadditions of silylated and non silylated thiones with vinyl trimethylsilyl ketone: novel synthesis of 4H-1,3-oxathiins 2971
Bonini B. F. Masiero S. Mazzanti G. and **Zani P.** 1,2-Diastereoselection induced by chiral silicon in the addition of Grignard reagents to acylsilanes 6801
Bonini B. F. Masiero S. Mazzanti G. and **Zani P.** Synthetic usefulness of silyl thioketones; functionalization of their primary adducts through desilylation and trapping by carbon electrophiles 815
Bonjoch J. see Solé D. 5183
Bonmatin J.-M. see Malon P. 5337
Bonora G. M. see Colonna F. P. 3251
Borde U. P. see Chatterjee S. 141
Borer B. C. and **Balogh D. W.** An asymmetric synthesis of a 3-hydroxy-β-lactam by ketene-imine cycloaddition: utilization of chiral ketenes from carbohydrates 1039
Borghi D. see Alpegiani M. 3883
Borner R. see Boden N. 6195
Borrell J. I. see Victory P. 5375
Bortolotti M. see Boldrini G. P. 1229
Bos H. J. T. see Hanekamp J. C. 5397
Bosch H. Pflieger P. Mioskowski C. Salaün J.-P. and Durst F. Anchimerically assisted substitution of a sulfinyl function in α-sulfinylhydrazones by thiols 2237
Bosco M. see Bartoli G. 7091
Bose A. K. see Subbaraju G. V. 4871
Bose N. K. see Kumar P. 967
Bostrom L. see Blizzard T. 2723
Botta M. see Gambacorta A. 6805
Botteghi C. see Paganelli S. 2807
Bottle S. E. see Adam W. 1405
Bottle S. E. see Adam W. 4283
Bouchard H. Renard P. Y. and **Lallemand J. Y.** Towards the total synthesis of clerodin—I 5953
Bouchard H. Soullé J. and **Lallemand J. Y.** Towards the total synthesis of clerodin—II 5957
Boulanger R. see Canonne P. 5861
Boumaïza L. see Herscovici J. 1791
Boumrah D. Campbell M. M. Fenner S. and **Kinsman R. G.** Spacer molecules in peptide sequences: incorporation into analogues of Atrial Natriuretic Factor 7735
Bouthillier G. Mastalerz H. and **Menard M.** The synthesis of an asparenomycin analog 1023
Bouyssi D. Balme G. Fournet G. Monteiro N. and **Gore J.** Palladium-mediated cyclopentanation of alkenes bearing a nucleophilic substituent. Stereochemistry and mechanism 1641
Bouyssi D. Balme G. and **Goré J.** Synthesis of ethynylidene cyclopentanes by a cyclisation catalyzed by the simultaneous presence of palladium(0) and copper(I) 6541
Bouyssou P. and **Chenault J.** Phosphonates and phosphine oxides as reagents in a one-pot synthesis of coumarins 5341
Bouzard D. see Jacquet J.-P. 1565
Bovicelli P. Mincione E. and **Ortaggi G.** Chemo and regioselective opening of ethereal carbon–oxygen bonds by monochloroborane–dimethylsulfide 3719
Bowler A. N. Doyle P. M. Hitchcock P. B. and **Young D. W.** Synthesis of non-proteinogenic amino acids with three chiral centres 2679
Bowman W. R. Brown D. S. Chaffin J. D. E. Symons M. C. R. Jackson S. W. and **Willcocks N. A.** Oxidative addition of hydroxide anions to nitroalkenes via the radical anions of α-nitro-oxiranes 2285
Bowman W. R. Clark D. N. and **Marmon R. J.** Sulphenamides as synthetic precursors of aminyl radicals 6441
Boy P. Combellas C. Fielding S. and **Thiébault A.** Synthesis of methyl or aryl sulfonyl hydroxy biphenyls catalyzed by monoelectronic transfer and related compounds 6705
Boyd D. R. Bushman D. R. Davies R. J. H. Dorrity M. R. J. Hamilton L. Jerina D. M. Levin W. McCullough J. J. McMordie R. A. S. Malone J. F. and **Porter H. P.** Absolute configurations of the arene oxide, *trans*-dihydrodiol and *cis*-dihydrodiol products resulting from metabolism of quinoline at the 5,6-bond 2963
Boyd D. R. Sharma N. D. Stevenson P. J. Chima J. Gray D. J. and **Dalton H.** Bacterial oxidation of benzocycloalkenes to yield monol, diol and triol metabolites 3887
Boyd S. A. see Rosenberg S. H. 6507
Boyer B. Lamaty G. Moussamou-Missima J. M. Pavia A. A. Pucci B. et **Roque J. P.** Préparation et propriétés solubilisantes de micelles polymérisées d'un tensioactif glycolipidique: le poly (N-(undécène-10-yl) lactobionamide) 1191
Boyer B. see André B. 1881
Boyer B. see André B. 4056
Boyer G. see Barbe J. 6709
Brack A. see Malon P. 5337
Bradshaw J. S. see Krakowiak K. E. 21
Bradshaw J. S. see Rossiter B. E. 3609
Branchaud B. P. and **Detlefsen W. D.** Cobaloxime-catalyzed radical alkyl-styryl cross couplings 6273
Branchaud B. P. and **Yu G.-X.** Some C–C bond constructions on monosaccharides using cobaloxime-mediated radical alkyl-nitroalkylanion cross coupling reactions 3639
Brandi A. Cicchi S. Goti A. and **Pietrusiewicz K. M.** Radical addition to vinylphosphine oxides: 1,2-stereoinduction of phosphorus stereogenic centre 3265
Brandsma L. see Hanekamp J. C. 5397
Brandstetter T. see Maier M. E. 3679
Braverman S. van Asten P. F. T. M. van der Linden J. B. and **Zwanenburg B.** A novel synthesis of thiophenes from allenic sulfones involving α,β-unsaturated sulfines as intermediates 3867
Bray A. M. Maeji N. J. Jhingran A. G. and **Valerio R. M.** Gas phase cleavage of peptides from a solid support with ammonia

vapour. Application in simultaneous multiple peptide synthesis 6163
Breakwell B. V. see Wagner R. W. 1703
Brembilla A. see Faivre V. 193
Brescia A. see Saba S. 5031
Breslow R. and **Crispino G. A.** Tripyridylcyclopropene derivatives and their conversion to hexapyridyl-benzene 601
Breternitz H.-J. Schaumann E. and **Adiwidjaja G.** Cyclization of deprotonated 2-phenyl-1-tosylaziridine. A surprising example of an intramolecular nucleophilic aromatic addition 1299
Brigaud O. see Battioni P. 2893
Briggs B. S. see Zmijewski, Jr. M. J. 1621
Brimble M. A. Ireland E. and **Phythian S. J.** The synthesis of 5'-deoxyjuglomycin A and 5'-methoxyjuglomycin A 6417
Brimble M. A. Nairn M. R. and **Wu Y.** Highly stereoselective *syn*-hydroxylation of spiroketals 4049
Brinen L. S. see de Silva E. D. 2707
Brinen L. S. see Pathirana C. 7001
Brinker U. H. see Xu L. 4461
Brinker U. H. and **Wüster H.** The reaction of cyclopropabenzene with 1,3-diphenylisobenzofuran: formal [4π + 2π] and [4π + 2σ] cycloadditions 593
Brocard J. see Carpentier J.-F. 4705
Broene R. D. and **Diederich F.** The synthesis of circumanthracene 5227
Broka C. A. Total syntheses of phleichrome, calphostin A, and calphostin D. Unusual stereoselective and stereospecific reactions in the synthesis of perylenequinones 859
Broka C. A. and **Ehrler J.** Enantioselective total syntheses of benamides B and E 5907
Broody M. see Nolen E. G. 73
Brooks D. W. see Basha A. 3783
Brosig H. see Heß U. 5539
Brosse N. see Jamart-Grégoire B. 3069
Brousseau R. see Juby C. D. 879
Brown A. C. see Berry P. D. 2683
Brown A. D. and **Colvin E. W.** Stereoselective synthesis of β-lactams 5187
Brown D. S. see Bowman W. R. 2285
Brown E. Lézé A. and **Touet J.** A simple, direct and reproducible method for the determination of lithium aluminium hydride 4309
Brown G. A. see Black T. H. 6501
Brown H. C. Ramachandran P. V. Teodorovic A. V. and **Swaminathan S.** *B*-Chlorodiiso-2-ethylapopinocampheylborane—a n extremely efficient chiral reducing agent for the reduction of prochiral ketones of intermediate steric requirements 6691
Brown H. C. Bhat N. G. and **Iyer R. R.** A novel route to 1,3-dienyl-2-boronic esters providing simple syntheses of conjugated [*E,E*]-dienes and conjugated [*E*]-alkenones 3655
Brown J. T. see Magriotis P. A. 5047
Brown M. F. see Harvey D. F. 2871
Brown M. F. see Harvey D. F. 5223
Brown R. F. C. Coulston K. J. Eastwood F. W. and **Moffat M. R.** Synthesis of indeno[1,2-*b*]indole by flash vacuum pyrolysis of 2-phenylquinoline-3,4-dicarboxylic anhydride 801
Brown R. T. Duckworth D. M. and **Santos C. A. M.** Biogenetically patterned synthesis of cadambine 1987
Brown, Jr. P. S. see Walters M. A. 179
Brownbridge P. see López-Tudanca P. L. 2261
Browne E. N. C. see Liu H.-J. 2005
Brownlee R. T. C. see Bambino F. 3407
Broxterman H. J. G. see Veeneman G. H. 6175
Brubaker M. J. see Groutas W. C. 6093
Brubaker, Jr. C. H. see Ali H. M. 5489
Bruce I. see Choi S. 5517
Brückner R. Scheuplein S. W. and **Suffert J.** Rapid and stereoselective construction of dienediynes related to the neocarzinostatin chromophore 1449
Brückner R. see Kusche A. 467
Brückner R. see Suffert J. 1453
Brückner R. and **Huisgen R.** Electrophilic substitutions by 2,2-bis(trifluoromethyl)ethylene-1,1-dicarbonitrile via addition 1871
Brückner R. and **Huisgen R.** Substitutions and dehydrogenations by 2,2-bis(trifluoromethyl)-ethyl-ene-1,1-dicarbonitrile via hydride abstraction 1875
Brudvig G. W. see Sameski J. E. 1153
Bruice T. C. see Salehi A. 3453
Bruneau C. see Hofer J. 7409
Bruneau C. see Kabouche Z. 5359
Brunet E. Batra M. S. Aguilar F. J. and **García Ruano J. L.** Highly diastereoselective addition of cyanide to β-hydroxyketones 5423
Brünker H.-G. see Adam W. 1957
Bryce M. R. Coffin M. A. Hursthouse M. B. Karaulov A. I. Müllen K. and **Scheich H.** Synthesis, X-ray crystal structure and multistage redox properties of a severely-distorted tetrathiafulvalene donor 6029
Bryce M. R. and **Heaton J. N.** Generation and trapping of *ortho*-substituted thionitrosobenzenes: competitive Diels–Alder and ene reactions with dimethylbutadiene 7459
Bryce M. R. and **Marshallsay G. J.** Synthesis of new multi-sulphur π-electron donors containing ketone functionality 6033
Buchanan J. L. see Burke S. D. 3961
Buchardt O. see Jakobsen M. H. 6199
Bucher A. see Quinkert G. 3357
Buchwald S. L. see Barr K. J. 5465
Buck I. see Bettiol J.-L. 5413
Buckler D. R. see Kemp D. S. 3009
Buckler D. R. see Kemp D. S. 3013
Budková Z. see Paleta O. 251
Bueno A. B. Carreño M. C. Fischer J. García Ruano J. L. Peña B. Peñas L. and **Rubio A.** Reactions of chiral 2-*p*-tolylsulfinylcycloalkanones with $AlMe_3$ 3191
Buhanjuk S. M. see Smit W. A. 2105
Buist P. H. and **Marecak D. M.** Sulfoxidation of a 9-thia-analogue of stearic acid does not occur in a Δ9-desaturase-deficient mutant of *Saccharomyces cerevisiae* 891
Bujacz G. see Mikotajczyk M. 4189
Bukhari A. M. see Hwang J. S. 3711
Burchat A. see Prasad G. K. B. 5035
Burdisso M. Gandolfi R. and **Rastelli A.** *syn-anti* Isomerism in the reactions of *cis*-3,4-disubstituted cyclobutenes-VI. *cis*-Dihydroxylation with OsO_4 2659
Burgess K. and **Henderson I.** Biocatalytic desymmetrizations of pentitol derivatives 5701

Burke S. D. Buchanan J. L. and **Rovin J. D.** Synthesis of a C(22) → C(34) halichondrin precursor via a double dioxanone-to-dihydropyran rearrangement 3961
Burke S. D. Lee K. C. and **Santaflanos D.** Double dioxanone-to-dihydropyran reorganization. Construction of a C(1)–C(13) erythronolide template 3957
Burke S. D. Piscopio A. D. Marron B. E. Matulenko M. A. and **Pan G.** Diastereoselectivity enhancement in vinylcuprate addition to β-alkoxyaldehydes via a vinylsilane 857
Burke S. D. Piscopio A. D. and **Kort M. E.** Stereoselective synthesis of *E*-β,β-disubstituted alkenylsilanes from α-(mesyloxy)allylsilanes 855
Burke S. D. Shankaran K. and **Helber M. J.** Synthesis of (=)-fragolide and (—)-fragolide and (—)-pereniporin B via vinylsilane terminated cationic cyclization 4655
Burke S. D. and **Deaton D. N.** Synthesis of (+)-dihydrocompactin and (+)-compactin via vinylsilane terminated cationic cyclization 4651
Burke, Jr. T. R. see Shoelson S. E. 6061
Burkholder C. R. see Dolbier, Jr. W. R. 3933
Burns J. H. see Sigman M. E. 5737
Burr L. see Come J. 4823
Burton D. J. see Morken P. A. 4271
Burton D. J. see Yang Z.-Y. 1019
Burton G. W. see Mordi R. C. 4203
Bushby R. J. see Boden N. 6195
Bushman D. R. see Boyd D. R. 2963
Buss D. see Pelter A. 6239
Bussolotti D. L. LaMattina J. L. and **James K.** A new route to 6-substituted 2,3-diaminopyridines 6503
Butcher, Jr. J. A. see Dong Z. 5291
Butler D. N. see Warrener R. N. 1885
Butler D. N. see Warrener R. N. 1889

Cabal M. P. see Agoston G. E. 3001
Cabrera E. see Ouazzani J. 647
Cabri W. see Chiara J. L. 1125
Cainelli G. Giacomini D. Mezzina E. Panunzio M. and **Zarantonello P.** N-Metallo imines: a new approach to α-amino alcohols from aldehydes 2967
Cainelli G. Panunzio M. and **Giacomini D.** Studies on N-metallo imines: synthesis of N-unsubstituted aziridines from N-trimethylsilyl imines and lithium enolates of α-halo esters 121
Calabrese J. C. see Wuonola M. A. 5481
Callot H. J. see Bauder C. 2537
Cameron D. W. Feutrill G. I. Griffiths P. G. and **O'Brien D. G.** A new synthesis of anthracyclines 6179
Caminade A.-M. see Gonce F. 203
Campbell M. M. Mahon M. F. Sainsbury M. Searle P. A. and **Davies G. M.** Synthesis of (±)-homogabaculine and (±)-homoshikimic acid 951
Campi E. M. Jackson W. R. and **Nilsson Y.** A hydroformylation route to β-substituted pyrroles 1093
Campos Neves A. S. see Moreno M. J. S. M. 3201
Cane D. E. Prabhakaran P. C. Tan W. and **Ott W. R.** Macrolide biosynthesis—VI. Mechanism of polyketide chain elongation 5457
Canonne P. Boulanger R. and **Angers P.** A novel synthesis of unsaturated spiro compounds based on reactions of bifunctional organometallic reagents 5861
Cantrell, Jr. W. R. see Davies H. M. L. 6509
Capelli A. M. see Bernardi A. 823
Cardelli A. see Belle C. 6395
Cardellina, II J. H. Hendrickson R. L. Stierle A. A. and **Martin G. E.** Kimbasines A and B, novel hexacyclic norsesterterpene alkaloids from the sponge *Igernella notabilis* 2347
Carignano I. see Barbe J. 6709
Carmeli S. Moore R. E. and **Patterson G. M. L.** Mirabazoles, minor tantazole-related cytotoxins from the terrestrial blue-green alga *Scytonema mirabile* 2593
Carroll M. K. see Green J. R. 1141
Castedo L. see Estévez J. C. 529
Castedo L. see Mascareñas J. L. 2813
Castro C. see Jung M. E. 5717
Catelani G. see Barili P. L. 959
Caubère P. see Jamart-Grégoire B. 3069
Cavé A. see Cortes D. 6133
Cazes B. see Gauthier V. 915
Célérier J. P. see Saliou C. 3365
Cha J. K. see Choi J.-R. 6469
Chabala J. C. see Thompson K. L. 3337
Chairul see Nishizawa M. 211
Chakraborty R. see Ranu B. C. 3579
Chakraborty T. K. and **Reddy G. V.** Studies directed towards the selective C-2 opening of 2,3-epoxy alcohols with azide ion 679
Chan T. H. see Li L.-H. 2879
Chan T. H. and **Labrecque D.** A novel regioselective synthesis of allylsilanes 1149
Chang C.-T. see Petter R. C. 449
Chang M. H. see Kang H.-Y. 2779
Chaouk H. see Anastasiou D. 2499
Chapuis C. Dimethyl isopropylidene malonate, the 'forgotten' dienophile 355
Chastanet J. see Beugelmans R. 3487
Chatterjee S. see Shoelson S. E. 6061
Chatterjee S. Vijayakumar E. K. S. Franco C. M. M. Borde U. P. Blumbach J. Ganguli B. N. Fehlhaber H.-W. and **Kogler H.** Butalactin: a new butanolide antibiotic from *Streptomyces corchorusii* 141
Chau J. H.-L. see Back T. G. 6517
Chelkh A. B. see Desai D. H. 6281
Chen B. see Bergbreiter D. E. 2731
Chen B.-C. see Davis F. A. 867
Cheng T.-W. see Yan T.-H. 5563
Chern C.-Y. see Barton D. H. R. 3309
Chern J.-W. and **Rong J.-G.** 1,2,4-Benzothiadiazine 1,1-dioxide-V. Synthesis of built-in hydroxy-guanidine tricycles as potential anticancer agents 2935
Cherng C.-D. see Tsai Y.-M. 3515
Chiacchio U. see Padwa A. 5923
Chiara J. L. Cabri W. and **Hanessian S.** The stereocontrolled formation of cyclic vicinal *cis*-diols via a samarium diiodide pinacol coupling of dialdehydes 1125
Chida N. Tobe T. and **Ogawa S.** Total synthesis of bengamide E 1063
Chini M. Crotti P. Favero L. and **Macchia F.** Stereo- and regioselective metal salt-catalyzed alkynylation of 1,2-epoxides 6617

Chiu F. C. K. see Bambino F. 3407
Choi S. Bruce I. Fairbanks A. J. Fleet G. W. J. Jones A. H. Nash R. J. and **Fellows L. E.** Alexines from heptonolactones 5517
Chong J. M. and **Mar E. K.** Preparation of enantiomerically enriched a-hydroxystannanes via enzymatic resolution 5683
Chou T. Hung S.-H. Peng M.-L. and **Lee S.-J.** Ultrasonically dispersed potassium in organic synthesis. Water-acceleration in reductive C-S bond cleavage reactions 3551
Chou T.-C. Hong P.-C. and **Lin C.-T.** A Diels–Alder cycloaddition–Cope rearrangement approach to the construction of C_S- and C_2-symmetric hexacycloeicosatetraendiones 6351
Chou W.-N. Clark D. L. and **White J. B.** The use of Rieke zinc metal in the selective reduction of alkynes 299
Chou W.-N. and **White J. B.** Enol variants of the Cope rearrangement of *cis*-2,3-divinyl epoxides and the further functionalization of the oxepin nucleus 157
Christophersen C. see Anthoni U. 2825
Chu F.-Y. see Wu S.-H. 3529
Chu W.-L. A. see Bhaskar K. V. 6203
Chuche J. see Grandjean D. 3043
Churcher I. see Attwood M. R. 811
Cicchi S. see Brandi A. 3265
Cirillo P. F. and **Panek J. S.** Palladium-catalyzed hydrogenolysis of acyldimethylphenylsilanes to aldehydes 457
Claassen, II R. J. see Harmata M. 6497
Clapp G. E. see Freeman P. K. 5705
Clardy J. see Kigoshi H. 2427
Clark A. J. Jones K. McCarthy C. and **Storey J. M. D.** Aryl radical cyclisations: quinoline, isoquinolone, and 1-benzazepin-2-one rings via 6- and 7-*exo* cyclisations 2829
Clark D. N. see Bowman W. R. 6441
Clément J. C. see Bernard H. 639
Clevenger G. L. see Jung M. E. 6089
Cliffe I. A. Ifill A. D. Mansell H. L. Todd R. S. and **White A. C.** 7-Amino-5,6,7,8-tetrahydroquinolines. Preparation from 5,6-dihydroquinoline and nitrogen nucleophiles 6789
Coleman A. W. see Zhang P. 2769
Collado I. G. Hernández-Galán R. Massanet G. M. Rodríguez-Luis F. and **Salvá J.** A new and efficient route to 3-(1,1-dimethylallyl) coumarins 3209
Collet E. and **Laszlo P.** Clay catalysis of the non-aqueous Diels-Alder reaction and the importance of humidity control 2905
Collin J. see Sasaki M. 2493
Collin J.-P. Heitz V. and **Sauvage J.-P.** A porphyrin rigidly linked to one or two terpyridine chelates used as assembling subunits 5977
Colonna F. P. Scremin C. L. and **Bonora G. M.** Large scale HELP synthesis of oligodeoxynucleotides by the hydroxy-benzotriazole phosphotriester approach 3251
Comasseto J. V. see Silveira C. C. 5741
Combret J. C. Meghni A. Postaire D. and **Tekin J.** Selective synthesis of 2-chloro-2,3-epoxy-2-oxazolines and isomeric 3-chloro-2-oxo-2-oxazolines 87
Combrink K. D. see Elmore S. W. 6679
Comins D. L. and **Badawi M. M.** Asymmetric Pictet–Spengler synthesis of tetrahydroisoquinolines. An enantioselective synthesis of (–)-audanosine 2995
Comins D. L. and **Morgan L. A.** N-Acyldihydropyridones as synthetic intermediates. Synthesis of (±)-septicine and (Â)-tylophorine 5919
Condon S. see Majetich G. 605
Cook J. M. see Deng L. 175
Coppert D. M. see Crandall J. K. 5441
Corcoran R. C. and **Ma J.** Stereochemical dependence of the rate of cyanohydrin reversion 6513
Corey E. J. and **Choi S.** Highly enantioselective routes to Darzens and acetate aldol products from achiral aldehydes and *t*-butyl bromoacetate 2857
Corey E. J. and **Jones G. B.** Enantioselective route to α-hydroxy aldehyde and acid derivatives 5713
Cork A. Hall D. R. Blaney W. M. and **Simmonds M. S. J.** Identification of a component of the female sex pheromone of *Callosobruchus analis* (Coleoptera: Bruchidae) 129
Cornélis A. Dony C. Laszlo P. and **Nsunda K. M.** No contest: a co-reactant deprived of reactivity 2903
Cortes D. Myint S. H. Leboeuf M. and **Cavé A.** A new type of cytotoxic acetogenins: the tetrahydrofuranic β-hydroxy methyl γ-lactones 6133
Cossío F. P. see Palomo C. 3109
Cossy J. and **Leblanc C.** First efficient synthesis of iso-oxy-skytanthine 3051
Costa A. see Coll G. 263
Coulston K. J. see Brown R. F. C. 801
Coustard J.-M. Jacquesy J.-C. and **Violeau B.** Hydroxynitrilium ions as intermediates in the reaction of nitroderivatives with aromatics 3075
Cox D. see Hondrogiannis G. 2303
Crandall J. K. Zucco M. Kirsch R. S. and **Coppert D. M.** The formation of orthoquinones in the dimethyldioxirane oxidation of phenols 5441
Crich D. and **Lim L. B. L.** Diastereoselective radical reaction: β-face selective quenching of the 1,2-*O*-isopropylidene-3,4,6-tri-*O*-benzyl-D-glucopyranos-1-yl radical 2565
Cristau H.-J. Manginot E. and **Torreilles E.** Phosphonium azayldiid as reagent for one-pot synthesis of phosphinimines with functional N-substituents 347
Cron S. see Le Deit H. 2759
Cross S. S. see Koehn F. E. 169
Curran D. P. see Giese B. 6097
Curran D. P. and **Thoma G.** Mechanistic studies of atom transfer addition reactions of iodomalononitriles to alkenes. 1,2-Asymmetric induction in an iodine atom transfer reaction 6307
Curtis R. W. see Kim K.-W. 6715
Czerwinski K. see Deng L. 175

D'Accolti L. see Altamura A. 5445
D'Andrea F. see Barili P. L. 2692
D'Andrea F. see Barili P. L. 959
D'Anello M. see Alpegiani M. 3883
d'Angelo J. see Gomez-Pardo D. 3067
D'Angelo J. see Hammoumi A. 651
d'Angelo J. and **Gomez-Pardo D.** β-Keto-δ-valerolactone: synthesis

and use as methylvinylketone anion equivalent in Michael additions 3063
D'Auria M. V. Paloma L. G. Minale L. Riccio R. and Debitus C. Jereisterol A and B: two 3β-methoxy-secosteroids from the Pacific sponge *Jereicopsis graphidiophora* 2149
D'Hondt L. see De Kimpe N. 3897
D'Souza V. T. see Ye H. 5231
da Silva Corrêa C. M. M. see Serra A. C. 6653
Dabdoub M. J. see Silveira C. C. 5741
Dabkowski W. see Helinski J. 4981
Dado G. P. see Gellman S. H. 7377
Dai H. see Posner G. H. 6489
Dal Piaz V. Ciciani G. and Giovannoni M. P. Isoxazolo[3,4-*d*]pyridazin-7(6H)-ones. Synthesis of 3-unsubstituted derivatives: a reinvestigation 3229
Dalkafouki A. Ardisson J. Kunesch N. Lacombe L. and Poisson J. E. Synthesis of 2-dimethylaminoimidazole derivatives: a new access to indolyl-imidazole alkaloids of marine origin 5325
Dalko P. see Barton D. H. R. 2471
Dalko P. I. see Barton D. H. R. 4713
Dallemagne P. Rault S. Pilo J. C. Foloppe M. P. and Robba M. One-pot cyclization of alkoxy-3-aminoindan-1-ones 6327
Dalmas V. see Demuynck C. 5085
Dalpozzo R. see Bartoli G. 7091
Dalton D. R. see Mascavage L. M. 3461
Dalton H. see Boyd D. R. 3887
Damha M. J. Giannaris P. A. Marfey P. and Reid L. S. Oligodeoxynucleotides containing unnatural L-2'-deoxyribose 2573
Damm W. see Giese B. 6097
Dan-oh Y. see Nokami J. 2409
Danda H. Maehara A. and Umemura T. Preparation of (4*S*)-4-hydroxy-3-methyl-2-(2'-propynyl)-2-cyclo-pentenone by combination of enzymatic hydrolysis and chemical transformation 5119
Dandois C. see Allmendinger T. 2735
Dang H.-S. and Davies A. G. Ene reactions of allylic tin compounds with singlet oxygen 1745
Daniels K. see Craig D. 6973
Danishefsky S. J. see Berkowitz D. B. 5497
Danishefsky S. J. see Rocco V. P. 6671
Danishefsky S. J. see Yamashita D. S. 6667
Daou B. see Soufiaoui M. 3699
Daoud N. N. and Foster H. A. Detection of 2,5,8,11,14-pentaoxapentadecane in the culture supernatant of *Myxococcus xanthus* (Myxobacterales) 3559
Dapporto P. see Nesi R. 6223
Das G. and Thornton E. R. Large rate accelerations in aldol reaction of *ortho*-substituted benzaldehydes 5239
Date K. see Fujisawa T. 7563
Dauben W. G. Oilmann, Jr. R. R. Funhoff A. S. Leung S. S. Norman A. W. and Bishop J. E. 25-Phosphorus analogs of vitamin D_3 4643
Daudon M. see Barret R. 2133
Daudon M. see Pautet F. 1457
Davidson B. S. Elsner T. and Meinwald J. 3,4-Didehydro-β,β-caroten-2-one, a new carotenoid from the eggs of the stick insect *Anisomorpha buprestoides* 5651
Davidson B. S. Plakortolide, a cytotoxic peroxylactone from a *Plaskortis* sponge 7167
Davies A. G. see Dang H.-S. 1745
Davies G. M. see Campbell M. M. 951
Davies H. M. L. and Cantrell, Jr. W. R. α-Hydroxy esters as inexpensive chiral auxiliaries in rhodium(II)-catalyzed cyclopropanations with vinyldiazomethanes 6509
Davies R. J. H. see Boyd D. R. 2963
Davies S. G. and Mortlock A. A. Bifunctional chiral auxiliaries–I. The aldol reaction between dialkylboron enolates of 1,3-dipropionyl-*trans*-4,5-tetramethyleneimidazolidin-2-one and aldehydes 4787
Davies S. G. and Mortlock A. A. Bifunctional chiral auxiliaries–II. The synthesis of 1,3-diacylimidazolidin-2-ones from 1,2-diamines 4791
Davis D. G. see Zoretic P. A. 4819
Davis F. A. Kumar A. and Chen B.-C. A highly enantioselective synthesis of (*R*)-(-)-2-acetyl-5,8-dimethoxy-1,2,3,4-tetrahydro-2-naphthol. A key intermediate in the synthesis of anthracyclinones 867
Davis F. A. and Han W. N-Fluoro-*O*-benzenedisulfonimide: a useful new fluorinating reagent 1631
Davis F. A. and Kumar A. Asymmetric synthesis of the AB-ring of aklavinone 7671
Davis J. M. Cameron D. R. Kubanek J. M. Mizuyabu L. and Thatcher G. R. J. Acceleration of sulfate ester hydrolysis in hydrophobic environments 2205
Davis J. T. see Colon M. 4447
Davis N. J. and Flitsch S. L. A novel method for the specific glycosylation of proteins 6793
Davison I. G. E. see Beckwith A. L. J. 49
Dawson B. T. see Yang S. S. 3341
Daynard T. S. see Hutchinson J. H. 573
de Bont H. B. A. see van Oijen A. H. 7723
de Brabander J. Vanhessche K. and Vandewalle M. Bryostatins: the asymmetric synthesis of C_1–C_9 and C_{11}–C_{16} fragments 2821
de Dios A. see Arjona O. 7309
de Frutos P. Fernández Mª D. Fernández-Alvarez E. and Bernabé M. Synthesis of asymmetric (*E*)-α-(2-phenylcyclopropyl)glycines 541
De Jeso B. see Djeghaba Z. 761
de Jong J. C. van den Berg K. J. van Leusen A. M. and Feringa B. L. Phenylsulfonyl-substituted 5-alkoxy-2(5H)-furanones; a new class of highly reactive chiral dienophiles 7751
De Kimpe N. D'Hondt L. and Stanoeva E. Synthesis of α-diones and α-diimines by regioselective α-alkylation of 2,3-alkanediimines 3879
de la Pradilla R. F. see Arjona O. 7309
de la Torre M. C. see Domínguez G. 4765
de la Torre M. C. see Lourenço A. 7305
De Lucchi O. see Dore A. 4771
De Lucchi O. see Pasquato L. 2177
de Meijere A. see Thiemann T. 3483
de Mendoza J. see Echavarren A. M. 6421
de Mendoza J. see Galán A. 1827
de Nanteuil G. A novel access to 4-fluoropyrimidines from a-chloro-a'-trifluoro-methylketones 2467
de Raadt A. see Klempier N. 341
de Silva A. P. see Bissell R. A. 425
de Silva A. P. and Sandanayake K. R. A. S. Fluorescent PET (photoinduced electron transfer) sensors for alkali cations: optimization of sensor action by

variation of structure and solvent 421
de Silva E. D. Racok J. S. Andersen R. J. Allen T. M. Brinen L. S. and Clardy J. Neamphine, a sulfur containing aromatic heterocycle isolated from the marine sponge *Neamphius huxleyi* 2707
Deaton D. N. see Burke S. D. 4651
Debaerdemaeker T. see Aßmann L. 1161
DeBernardis J. F. see Basha F. Z. 5469
Debitus C. see D'Auria M. V. 2149
Debitus C. see Malochet-Grivois C. 6701
DeCamp A. E. Kawaguchi A. T. Volante R. P. and Shinkai I. Stereocontrolled addition of propionate homoenolate equivalents to chiral α-amino aldehydes 1867
Decicco C. P. see Corey E. J. 5287
Declercq J.-P. see Rousselle D. 907
Decorzant R. see Näf R. 753
DeCrescenzo G. A. see Getman D. P. 5691
Deeter J. B. see Kirst H. A. 4839
Defrancq E. Morat C. Lhomme M.-F. and Lhomme J. Formation of a tetracyclic structure between cytosine derivatives and a model metabolite of the carcinogen 4-nitroquinoline N-oxide 5333
Degl'Innocenti A. see Ricci A. 1899
Dehaen W. and Becher J. Synthesis of 5-amino-4-cyanopyrazoles via ring opening-ring closure of 5-azido-4-iminomethylpyrazoles; isolation of the intermediate 3565
Dehghani A. see Comins D. L. 5697
Dehmlow E. V. and Bollmann C. Phase transfer catalyzed *tert*-alkylations of cyclopentadiene and indene: indications for SET processes 5773
Dehmlow E. V. and Stütten J. On the stereoselectivity of iodocarbene and -carbenoid additions to cyclic alkenes 6105
del Grosso M. see Quinkert G. 3357
del Rosario-Chow M. Ungwitayatorn J. and Currie B. L. Manganic acetate mediated transformation of enol-ethers into gammalactones 1011
Delatre S. see Herscovici J. 1183
Delaude C. see Quetin-Leclercq J. 4295
Delaude L. and Laszlo P. Regioselective hydrochlorination of olefins is favored by an acidic solid catalyst 3705
Delavier P. see Vogel C. 1409
Deleuze H. see Djeghaba Z. 761
Delgado A. see Pathirana C. 7001
Dell C. P. see Bloxham J. 4051
Della E. W. see Grob C. A. 5945
Delorme D. see Guindon Y. 27
DeLuca H. F. see Perlman K. L. 7663
Demailly G. see Belkhouya N. 3977
DeMattei J. A. see Armstrong R. W. 5749
Dembech P. see Casarini A. 2169
Demuynck C. Bolte J. Hecquet L. and Dalmas V. Enzyme-catalyzed synthesis of carbohydrates: synthetic potential of transketolase 5085
Deng L. Czerwinski K. and Cook J. M. Stereospecificity in the Pictet-Spengler reaction; kinetic versus thermodynamic control 175
Dennin F. Blondeau D. and Sliwa H. Betaines from new heterocyclic phenols: 9-oxido-pyrido[1,2-*a*] pyrimidin-5-ium and derivatives 4307
Depezay J. C. see Gravier-Pelletier C. 1165
Deprés J.-P. see Hartmann B. 5077
Deprés J.-P. see Hartmann B. 767
Deprez P. Rouden J. Chiaroni A. Riche C. Royer J. and Husson H.-P. Diastereofacial selectivity in the 1,3-dipolar cycloaddition of chiral azomethine ylides 7531
des Abbayes H. see Bernard H. 639
Desai D. H. Cheikh A. B. and Zemlicka J. One-pot synthesis of (±)-1'a-carba-1'αβ-hydroxycytidine–a new carbocyclic analogue of cytidine 6281
Desai R. C. see Hlasta D. J. 7179
Deshpande A. D. see Banerji A. 4995
Deshpande V. H. see Kasar R. A. 1599
Desjardins M. see Chênevert R. 4249
Desos P. see Sundberg R. J. 3035
Desvaux H. see Battioni P. 2893
Detlefsen W. D. see Branchaud B. P. 6273
Deushi T. see Takahashi Y. 1067
Dévényi J. see Poppe L. 2643
Devine P. N. and Oh T. Synthesis of chiral nonracemic diols via nucleophilic opening of (*S,S*)-1,2,3,4-diepoxybutane 883
Dewynter G. see Aouf N. 6545
Dewynter G.-F. see Montero J.-L. 5357
Deyá P. M. see Coll G. 263
Dhami T. S. see Suryawanshi S. N. 1519
Dhanabalan A. see Selvaraj S. 7469
Dhanalekshmi S. Balasubramanian K. K. and Venkatachalam C. S. Electrochemical behaviour of 3,3-sigmatropic systems—anodic oxidation of aryl allyl ethers and aryl propargyl ethers 7591
Dhar R. K. see Rabideau P. W. 3969
Diallo O. S. Lopez L. and Barrans J. Spirophosphazenes and the parent triazaphosphole: difference and similarity in chemical reactivity 501
Dias J. R. Facile construction of polyene molecules with high Hückel molecular orbital degeneracy 4659
Diaz H. and Kelly J. W. The synthesis of dibenzofuran based diacids and amino acids designed to nucleate parallel and antiparallel β-sheet formation 5725
Díaz M. T. see Alvarez E. 2241
Dickens M. J. and Luche J.-L. Further evidence for the effect of ultrasonic waves on electron transfer processes — the case of the Kornblum–Russell reaction 4709
Dickhaut J. see Giese B. 6097
Dideberg O. see Quetin-Leclercq J. 4295
Didiuk M. see Sameski J. E. 1153
Dieden R. see Krief A. 3231
Diederich F. see Anthony J. 3787
Diederich F. see Broene R. D. 5227
Diederich F. see Castro P. P. 6277
Diederich F. see Montero V. A. 5309
Dietze P. E. Khattak J. and Fickus E. the general acid catalyzed trifluoroethanolysis of ethoxydimethylphenylsilane 307
Diez A. see Bettiol J.-L. 5413
Diez A. see Bettiol J.-L. 7449
Diez A. see Troin Y. 6129
Differding E. Rüegg G. M. and Lang R. W. Selective mono- and difluorination of enolates 1779
Differding E. and Rüegg G. M. Nucleophilic substitution versus electron transfer-I. On the mechanism of electrophilic fluorinations 3815
Differding E. and Wehrli M. Nucleophilic substitution versus electron transfer-II. S_N2 at fluorine and electron transfer are

competing and different pathways in electrophilic fluorinations 3819
Dike S. Y. see Kumar A. 1901
Dinoor N. see Grynszpan F. 1909
Dinsmore C. J. see Hoye T. R. 3755
DiVerdi M. J. see Faller J. W. 1271
Dixneuf P. H. see Höfer J. 7409
Dixneuf P. H. see Kabouche Z. 5359
Djeghaba Z. Deleuze H. De Jeso B. Messadi D. and **Maillard B.** Enzymes in organic synthesis-VII. Enzymatic acylation of amines 761
Djerourou A.-H. and **Blanco L.** Synthesis of optically active 2-sila-1,3-propanediols derivatives by enzymatic transesterification 6325
Djukic J. P. Geysermans P. Rose-Munch F. and **Rose E.** Hydro-de-halogenation of halogenoarenetricarbonylchromium complexes 6703
Dmitrienko G. I. see Prasad G. K. B. 5035
Dodd D. S. and **Oehlschlager A. C.** Efficient route to the synthesis of C-2, C-3 substituted 4-piperidones 3643
Dodge J. A. see Martin S. F. 3017
Doe de Maindreville M. see Lévy J. 5081
Doherty O. see Wang Y. 1675
Döhling A. see Staab H. A. 2215
Dolbier, Jr. W. R. Keaffaber J. J. Burkholder C. R. Sellers S. F. Koroniak H. and **Pradhan J.** The thermal conversion of 6,6-difluorobicyclo[3.1.0]hex-2-ene to fluorobenzene. A novel mechanism 3933
Dolle R. E. Novelli R. Saxty B. A. Wells T. N. C. Kruse L. I. Camilleri P. and **Eggleston D.** Preparation of (±)-(*erythro*)- and (±)-(*threo*)-2-vinyl citric acids as potential mechanism-based inhibitors of ATP-citrate lyase 4587
Dolle R. E. Osifo K. I. and **Li C.-S.** Enantioselective synthesis of (+)-pinidine 5029
Doller D. see Barton D. H. R. 3811
Doller D. see Barton D. H. R. 4671
Dolphin D. see Yon-Hin P. 2875
Dols P. P. M. A. Lacroix L. Klunder A. J. H. and **Zwanenburg B.** 4-Acetoxycyclopent-2-enone: a synthetic equivalent for cyclopentadienone in Diels–Alder reactions 3739
Dols P. P. M. A. see Lange J. H. M. 3127
Dombrowski A. W. see Singh S. B. 5279
Domínguez C. Csákÿ A. G. and **Plumet J.** Chemoselective reduction in carbonyl-conjugated vinylfurans by the Mg/MeOH system 4183
Domínguez E. Carretero J. C. Fernández-Mayoralas A. and **Conde S.** An efficient preparation of optically active (*E*)-γ-hydroxy-α,β-unsaturated phenyl sulfones using lipase-mediated acylations 5159
Domínguez E. see Alcaraz C. 1385
Domínguez G. Hueso-Rodríguez J. A. de la Torre M. C. and **Rodríguez B.** Synthesis and absolute configuration of drim-9(11)-en-8-ols from *Aspergillus oryzae* 4765
Domínguez M. J. see Gómez-Monterrey I. 1089
Domínguez Mª J. see Gómez-Monterrey I. 3563
Dommerholt F. J. Thijs L. and **Zwanenburg B.** An enantioselective total synthesis of the macrodiolide (-)-(*RRR*)-colletallol 1495
Dommerholt F. J. Thijs L. and **Zwanenburg B.** Total synthesis of the macrodiolide pyrenophorol 1499
Donald D. K. Cooper M. E. Furber M. Wells E. Hutchinson R. and **Black F. M.** C10 N-acyl modified FK-506: a possible hybrid analogue of the transition state of peptidyl-prolyl *cis–trans* isomerization 1375
Donaldson W. A. and **Hossain Md. A.** Reactivity of cross-conjugated (pentadienyl)iron cations: formation of diene and trimethylenemethane complexes 7047
Donaldson W. A. and **Stepuszek D. J.** Reactivity of (3-chloro-2-methylenecycloalkyl)palladium chloride dimers: palladium catalysed tropone formation 4089
Dondoni A. Merino P. and **Orduna J.** Stereoselective construction of polyhydroxyalkyl 2-thiazolyl ketones (thiazole ketoses) from D-glyceraldehyde and D-arabinose acetonides by Wittig-Michael sequence. A route to D-*gluco*-KDO 3247
Dondy B. see Portella C. 83
Dong Z. and **Butcher, Jr. J. A.** A useful synthesis of D-*erythro*-sphingomyelins 5291
Donnelly D. M. X. Finet J.-P. and **Kielty J. M.** Synthesis of a norneolignan from *Krameria ramosissima* 3835
Donner B. G. see Wittenberger S. J. 7655
Dony C. see Cornélis A. 1423
Dony C. see Cornélis A. 2901
Dony C. see Cornélis A. 2903
Dore A. Cossu S. De Lucchi O. and **Valle G.** Generation and rearrangement of C_2-symmetric chiral allyl anions derived from dibenzo- and 1,1'-dinaphtho-2,2'-dithiopropenes 4771
Döring D. see Vogel C. 1409
Dormer P. G. see Smith, III A. B. 6847
Dorrity M. R. J. see Boyd D. R. 2963
Dorroh P. see Mitchell M. O. 7641
Dotse A. K. see Bird C. W. 2413
Doucet H. see Höfer J. 7409
Doull J. L. see Ayer S. W. 6301
Doulut S. see Rodriguez M. 923
Doutheau A. see Rochigneux I. 2017
Douvlos M. see Ho M. 1283
Dowd P. Unusual Hückel molecular orbital degeneracy of some non-alternant, non-Kekulé molecules 445
Dowd P. and **Choi S.-C.** Free radical ring expansion and rearrangement of large carbocyclic rings 565
Dowd P. F. see TePaske M. R. 5687
Doxsee K. M. and **Mouser J. K. M.** Titanium-mediated synthesis of conjugated dienes 1687
Doyle P. M. see Bowler A. N. 2679
Doyle T. W. see Golik J. 1851
Drechsler H. see Müller H.-G. 2009
Dreef C. E. Elie C. J. J. van der Marel G. A. and **van Boom J. H.** Synthesis of phosphonate analogues of *myo*-inositol phospholipids 955
Dreef C. E. Schiebler W. van der Marel G. A. and **van Boom J. H.** Synthesis of 5-phosphonate analogues of *myo*-inositol 1,4,5-trisphosphate: possible intracellular calcium antagonists 6021
Dreef-Tromp C. M. see Verduyn R. 6637
Drummond J. R. see Bigge C. F. 7659
Duan J. J.-W. see Smith, III A. B. 4855
Duan J. J.-W. see Smith, III A. B. 4859
Duan J.-X. see Su D.-B. 7689

Dubitskaya N. F. see Bobylyova A. A. 6429
Duckworth D. M. see Brown R. T. 1987
Duffault J.-M. Einhorn J. and **Alexakis A.** Expeditious synthesis of the four isomers of methyl dimorphecolate 3701
Duffy J. L. see Kim H. R. 4259
Duh C.-Y. see Wu Y.-C. 4169
Duhamel L. Guillemont J. Poirier J.-M. and **Chabardes P.** A new prenylation method using the lithium enolate of prenal. Reaction with polyunsaturated adehydes. A short access to retinal 4499
Duhamel L. Guillemont J. Poirier J.-M. and **Chabardes P.** A new prenylation method using the lithium enolate of prenal. Reaction with aldehydes and α,β-unsaturated aldehydes 4495
Duhamel L. Peschard O. and **Plé G.** Cyclization of methyl α-bromocrotonate to a pentasubstituted cyclopropane 4695
Dukesherer D. R. see Logusch E. W. 2711
Dumas J. see Gravier-Pelletier C. 1165
Dumont W. see Krief A. 3231
Dunn T. J. see Neumann W. L. 5865
Dunsdon R. M. see Attwood M. R. 811
Duong T. T. see Ghosh A. K. 4251
Dupont L. see Quetin-Leclercq J. 4295
Dürner G. see Quinkert G. 3357
Dürner G. see Quinkert G. 7397
Dürst D. see Lauk U. 65
Durst F. see Bosch H. 2237
Durucasu I. Saraçoglu N. and **Balci M.** The chemistry of 1H-cyclopropa [*b*]naphthalene 7097
Duus J. Ø. see Anthoni U. 2825
Dwight R. see Pathirana C. 2323
Dwight R. see Pathirana C. 7001
Dybowski P. and **Skowronska A.** A new strategy for the stereoselective synthesis of olefins 4385
Dye J. L. see Cauliez P. M. 5039
Dyker G. Acenaphth[1,2-*a*]acenaphthylene: a semi-benzenoid hydrocarbon with dienophilic central double bond 7241
Dziewiszek K. see Su T.-L. 1541

Earle M. J. Fairhurst R. A. and **Heaney H.** Bis-trimethylsilylacetamide: a reagent for the control of Friedel–Crafts alkylation reactions using methyl chloromethoxyacetate 6171
Eastwood F. W. see Brown R. F. C 801
Eaton P. E. see Barton D. H. R. 6263
Eberbach W. see Haarmann H. 903
Eblike H. Terao Y. and **Achiwa K.** Acyloxymethyl as an activating group in lipase-catalyzed enantioselective hydrolysis. A versatile appraoch to chiral 4-aryl-1,4-dihydro-2,6-dimethyl-3,5-pyridinedicarboxylates 5805
Echavarren A. M. de Mendoza J. Prados P. and **Zapata A.** Stereoselective synthesis of (±)-4-*epi*-acetomycin by the ester enolate Carroll rearrangement 6421
Echegoyen L. see Rein K. S. 1941
Eddaif A. Kitane S. Souflaoui M. et **Mison P.** Cycloaddition dipolaire-1,3 sur des 2H-pyrroles: synthèse de quelques dérivés de pyrazolino- et isoxazolino- [5,6-*e*]pyrroles 3709
Eddarir S. Mestdagh H. and **Rolando C.** Synthesis of fluorinated enynes and dienes via 1-bromo 2-fluoro alkenes 69
Edmunds A. J. F. Baumann K. Grassberger M. and **Schulz G.** Highly selective reactions of FK506 with diazomethane 7039
Edo K. see Tanaka T. 3175
Edstrom E. D. An unexpected reversal in the stereochemistry of transannular cyclizations. A stereoselective synthesis of (Â)-epilupinine 5709
Edstrom E. D. and **Yuan W.** Photoreactions of 6-(1'-triazolyl)uracils. Synthesis of 7,8-disubstituted pyrrolo[2,3-*d*]pyrimidines and pyrimido[4,5-*c*]isoquinolines 323
Effenberger F. Hörsch B. Weingart F. Ziegler T. and **Kühner S.** Enzyme-catalyzed synthesis of (*R*)-ketone-cyanohydrins and their hydrolysis to (*R*)-α-hydroxy-α-methyl-carboxylic acids 2605
Eggleston D. see Dolle R. E. 4587
Eggnauer U. see Cid M. M. 7233
Eguchi M. see Rossiter B. E. 3609
Eguchi M. see Rossiter B. E. 3973
Eguchi S. see Yu Y. 4965
Eguchi T. see Kakinuma K. 5801
Ehara T. see Kumagai T. 6895
Ehrhardt J.-D. see Grunder-Klotz E. 751
Ehrler J. see Broka C. A. 5907
Eid, Jr. C. N. and **Konopelski J. P.** Enantiomerically pure ketals in synthesis. Diastereoselective formation of β-keto and β-hydroxy ketals 461
Einhorn C. Einhorn J. and **Luche J.-L.** Nucleophilic properties of butyllithium versus free carboxylic acids 2771
Einhorn J. see Duffault J.-M. 3701
Einhorn J. see Einhorn C. 2771
Eisner T. see Attygalle A. B. 4849
Eisner T. see Davidson B. S. 5651
Ejjiyar S. see Amouroux R. 3059
Eki T. see Yamamoto T. 515
El Hadrami M. Lavergne J.-P. Viallefont P. Ait Itto M. Y. and **Hasnaoui A.** Synthesis of (*2S,4S,6S*)-2-amino-6-hydroxy-4-methyl-8-oxodecanoic acid and (*4S,E*)-4-methylhex-2-enoic acid, constituents of leucinostatines 3985
El Kaim L. see Barlaam B. 623
Elemes Y. see Orfanopoulos M. 2
Elemes Y. and **Orfanopoulos M.** Triazolinedione additions to alkenes in protic solvents. A remarkable temperature dependence of the competing reaction paths 2667
Elguero J. see Barbe J. 6709
Elie C. J. J. see Dreef C. E. 955
Elinson M. N. see Nikishin G. I. 799
Elinson M. N. see Nikishin G. I. 2655
Elkaim L. see Boivin J. 5321
Eller C. see Goldstein S. W. 5493
Elliott R. P. Fleet G. W. J. Pearce L. Smith C. and **Watkin D. J.** A reductive aldol strategy for the synthesis of very highly substituted cyclopentanes from sugar lactones 6227
Ellwood C. W. and **Pattenden G.** Sequential alkoxy radical fragmentation–transannular radical cyclisation–radical ring expansion reactions. A new approach to bicyclo[5.3.0]decanones and to bicyclo[6.3.0]undecanones 1591
Elmore S. W. Combrink K. D. and **Paquette L. A.** A convenient means for controlling the oxidation level of bridgehead carbon C-1 in functionalized tricyclo[9.3.1.$0^{3,8}$]pentadecanes 6679
Elmore S. W. and **Paquette L. A.** The first thermally-induced retro-oxy-Cope rearrangement 319
Elmorsy S. S. Badawy D. S. Nour M. A. and **Pelter A.** The iodotrichlorosilane induced reactions of aromatic aldehydes with acrylonitrile: a unique route to unsaturated iminoaldehydes 5421

Elmorsy S. S. Nour M. A. Kandeel E. M. and **Pelter A.** A novel route for the direct synthesis of secondary amides from aldehydes 1825
Elmorsy S. S. Pelter A. and **Smith K.** The direct production of tri- and hexa-substituted benzenes from ketones under mild conditions 4175
Elofsson M. Walse B. and **Kihlberg J.** Building blocks for glycopeptide synthesis: glycosylation of 3-mercaptopropionic acid and Fmoc amino acids with unprotected carboxyl groups 7613
Ema T. Kuroda Y. and **Ogoshi H.** Selective syntheses of unsymmtrical *meso*-arylporphyrins 4529
Endo Y. Hizatate S. and **Shudo K.** Anionic [3,3]-sigmatropic rearrangement of N-phenyl-O-acyl-hydroxylamines to *o*-aminophenylacetic acids 2803
Endo Y. Ohta T. and **Nozoe S.** Favelanone, a novel tetracyclic cyclopropane derivative from the Brazilian plant, *Cnidoscolus phyllacanthus* 5555
Endo Y. Ohta T. and **Nozoe S.** Favelines, novel tricyclic benzocycloheptenes with cytotoxic activities from Brazilian plant, *Cnidoscolus phyllacanthus* 3083
Endo Y. and **Shudo K.** Anionic 3,4-diaza[3,3]sigmatropic rearrangements of N,N'-diacylhydrazines 4517
Engdahl T. see Jakobsen M. H. 6199
Engelbrecht G. J and **Holzapfel C. W.** Stereoselective palladium catalyzed cyclization on carbohydrate templates-a route to chiral cyclopentanes and some heterocyclic analogs 2161
Enholm E. J. and **Satici H.** A direct preparation of 1,2-diacetates from aldehydes and ketones promoted by samarium diiodide 2433
Ennis D. S. see Wasserman H. H. 6039
Enomoto M. see Tanabe Y. 379
Epling G. A. and **Jackson M. L.** Rose Bengal-induced photofragmentation: singlet oxygen revisited 7507
Erata T. see Fujihara H. 4537
Erata T. see Ogawa S. 3179
Erden I. and **Martinez T. R.** Chemistry of singlet oxygen. Dye-sensitized photooxygenation of arylallenes 1859
Eritja R. Robles J. Fernandez-Forner D. Albericio F. Giralt E. and **Pedroso E.** NPE-Resin, a new approach to the solid-phase synthesis of protected peptides and oligonucleotides-I. Synthesis of the supports and their application to oligonucleotide synthesis 1511
Eritja R. see Albericio F. 1515
Escale R. see Niel G. 2613
Escher A. Kennard C. H. L. Quinn R. J. and **Smith G.** Cyclopentylamine substituted triazolo[4,5-*d*]pyrimidine: implications for binding to the adenosine receptor 3583
Escudier J.-M. Baltas M. and **Gorrichon L.** Diastereoselection in the addition of enolates to chiral α,β-epoxyalde hydes 5345
Esker J. L. see Newcomb M. 1035
Esslinger C. S. see Williams R. M. 3635
Estep K. G. see Boeckman, Jr. R. K. 4095
Estévez J. C. Villaverde M. C. Estévez R. J. and **Castedo L.** Tributyltinhydride-induced intramolecular radical cyclization to aporphines and 5-oxoaporphines 529
Estévez R. J. see Estévez J. C. 529
Estevez V. A. and **Prestwich G. D.** Affinity probes for Ins(1,3,4,5)P_4 receptors 1623
Eszenyi T. Tímár T. and **Sebök P.** A novel syntehsis of 4-halo-2*H*-chromenes 827
Etemad-Moghadam G. Rifqui M. Layrolle P. Berlan J. and **Koenig M.** Sonochemistry in the diphosphirane series 5965
Etemad-Moghadam G. Tachon C. Gouygou M. and **Koenig M.** Cheletropic reactions in diphosphirane series 3687
Eto M. see Harano K. 2387
Evilia R. F. Pan D. Timberlake J. W. and **Whittenburg S. L.** The effect of *ortho* methyl groups on cumyl systems 871
Ezaki K. Satake M. Kusumi T. and **Kakisawa H.** New dihydrophenanthrapyrans from *Cedrelinga catenaeformis* 2793
Ezquerra J. see Matia M. P. 7575

Fabbri G. see Rovero P. 2639
Faber K. see Klempier N. 341
Fabre J.-M. Garín J. and **Uriel S.** The first aminomethyl TTF derivatives: new donors for synthetic metals 6407
Fadli M. Aracil J.-M. Jeanty G. Banaigs B. Francisco C. et **Moreau S.** Méditerranéol E: proposition de structure pour un méroditerpène transposé de l'algue brune *Cystoseira mediterranea* 2477
Fadli M. see Aracil J.-M. 2609
Faigl F. and **Schlosser M.** A one-pot synthesis of ibuprofene involving three consecutive steps of superbase metalation 3369
Fairbanks A. J. see Choi S. 5517
Fairhurst R. A. see Earle M. J. 6171
Falvre V. Brembilla A. Rolzard D. and **Lochon P.** Zn^{++}-Complexes as models of metalloenzymes in micellar esterolysis: ligand structure-dependent stoichiometry of the complexes 193
Falck J. R. see Lumin S. 2315
Faller J. W. DiVerdi M. J. and **John J. A.** Diastereoselective synthesis of *syn*-β-methyl homoallyl alcohols with crotylmolybdenum complexes 1271
Fanghänel E. see Beye N. 479
Farina V. and **Roth G. P.** Catalyst tailoring for palladium-mediated cross coupling of arylstannanes with vinyl triflates 4243
Fariña F. Noheda P. and **Paredes M. C.** Total synthesis of (±)-5-iminodaunomycinone and (±)-4-demethoxy-5-iminodaunomycinone 1109
Farouz F. and **Miller M. J.** Facile syntheses and rearrangements of peptide derived β-lactams 3305
Farrell T. J. see Smith M. J. 991
Faulkner D. J. see Kong F. 3667
Favero L. see Chini M. 4775
Favero L. see Chini M. 6617
Favero L. see Chini M. 7583
Favre F. see Langlois N. 2233
Fazal G. see Abraham N. A. 577
Feducovich S. K. see Nikishin G. I. 799
Fehlhaber H.-W. see Chatterjee S. 141
Fehlhammer W. P. see Heß U. 5539
Feldman P. L. Synthesis of the putative L-arginine metabolite L-N^G-hydroxyarginine 875
Fellows L. E. see Choi S. 5517
Feng X. see Olsen R. K. 5721
Fenical W. see Pathirana C. 2323
Fenical W. see Pathirana C. 7001
Fenlon E. E. see French L. G. 851
Fenner S. see Boumrah D. 7735
Fenor M. see Guirado A. 2633
Feringa B. L. see Knol J. 7465
Feringa B. L. see de Jong J. C. 7751

Feringa B. L. see Jansen J. F. G. A. 3239
Ferland J. M. see Abraham N. A. 577
Fernándes-Mayoralas A. see Domínguez E. 5159
Fernández I. see Llera J. M. 7299
Fernandez I. see Solladié G. 509
Fernández J. J. see Öztunç A. 4377
Fernández Ma D. see de Frutos Mª P. 541
Fernández R. Gasch C. Gómez-Sánchez A. and **Vílchez J. E.** Highly efficient nitroaldol reaction promoted by trialkylsilyl chlorides 3225
Fernández-Alvarez E. see de Frutos Mª P. 541
Fernandez-Forner D. see Eritja R. 1511
Fernández-Moro R. see Bates R. W. 2651
Fernando W. T. M. L. see Bissell R. A. 425
Ferraboschi P. see Santaniello E. 430
Ferré E. see Tuccio B. 2763
Ferro P. G. see Boivin J. 5321
Fessner W.-D. Grund C. and **Prinzbach H.** π-Facial stereoselectivity in the Diels–Alder reaction—III. An unsymmetrically birdcage-annulated cyclohexadiene 5935
Fessner W.-D. Scheumann K. and **Prinzbach H.** π-Facial stereoselectivity in the Diels-Alder reaction–IV. The directing influence of proximate unsaturation 5939
Feutrill G. I. see Cameron D. W. 6179
Flaud J.-C. see Kagan H. B. 5959
Flaud J.-C. and **Legros J.-Y.** Preparation of optically pure 1,2,5-triphenylphospholane. Use as ligand for enantioselective transition-metal catalysis 5089
Fickus E. see Dietze P. E. 307
Fielding S. see Boy P. 6705
Figadère B. Harmange J.-C. Laurens A. and **Cavé A.** Stereospecific synthesis of (+)-muricatacin: a biologically active acetogenin derivative 7539
Filira F. Biondi L. Gobbo M. and **Rocchi R.** N-Alkylation of amino acids during hydrogenolytic deprotection 7463
Fillion H. see Nebois P. 1307
Finch H. see Stephenson G. R. 1291
Finet J.-P. see Donnelly D. M. X. 3835
Finzel R. see Adam W. 2211
Fischer J. see Bueno A. B. 3191
Fischer W. see Lauk U. 65
Fisher M. see Blizzard T. 2723
Fisher M. H. see Blizzard T. A. 2437
Fisher M. H. see Blizzard T. A. 2441
Fisher M. H. see Shih T. L. 3663
Fishwick C. W. G. see Barnish I. T. 405
Fishwick C. W. G. see Szántay, Jr. C. 2529
Flammang R. see Kambouris P. 1487
Flann C. J. Overman L. E. and **Sarkar A. K.** Synthesis of 3-acyl-3-alkyloxindoles 6993
Fleet G. W. J. see Choi S. 3569
Fleet G. W. J. see Choi S. 5517
Fleet G. W. J. see Elliott R. P. 6227
Fleet G. W. J. see Wang Y. 1675
Fleischer F. see Maier G. 57
Fleurant A. see Saliou C. 3365
Fleury J.-P. see Muller D. 2229
Fleury M.-B. see Largeron M. 631
Flippin L. A. Directed metalation and new synthetic transformations of 5-aryl-tetrazoles 6857
Flitsch S. L. see **Davis N. J.** 6793
Florent J.-C. see Trinh M.-C. 1447
Florio S. Ronzini L. and **Sgarra R.** Corrigendum 1114
Fogassy E. see Ács M. 7325
Folkins P. L. Vincent B. R. and **Harpp D. N.** Generation and trapping of the pseudo-diatomic 'R–P=S' 7009
Foloppe M. P. see Dallemagne P. 6327
Fong S. T. see Coxon J. M. 7115
Font J. see Ariza J. 1979
Fontaine C. see Mahmood K. 6117
Fontanel M.-L. see Rochigneux I. 2017
Foote C. S. see Stratakis M. 863
Fortin R. see Gillard J. W. 1145
Foster H. A. see Daoud N. N. 3559
Foucaud A. see Ando T. 6379
Foucaud A. see Bedel C. 2619
Fouquet E. see Boivin J. 4299
Fournet G. see Bouyssi D. 1641
Fraiz, Jr. S. see Barluenga J. 3205
Franceschi G. see Alpegiani M. 6207
Franciotti M. Mann A. and **Taddei M.** Stereoselective vinylation of amino aldehydes using 2-trimethylsilyl-ethylidentriphenylphosphorane 6783
Francisco C. see Aracil J.-M. 2609
Francisco C. see Fadli M. 2477
Francisco C. G. Freire R. Rodríguez M. S. and **Suárez E.** Organosulfur and organoselenium mediated reductive cleavage of certain γ-enonelactones 3413
Franck-Neumann M. Kastler A. and **Colson P.-J.** Substituted trimethylenemethane and isoprene (tricarbonyl)iron complexes via cross-conjugated pentadienyl iron cations 7051
Franck-Neumann M. Miesch M. and **Gross L.** The cyclobutenic way to triquinanes. Synthesis of (±) Silphinene 2135
Franco C. M. M. see Chatterjee S. 141
François P. see Plancquaert M.-A. 7265
Franklin R. J. see Aggarwal V. K. 7743
Franz J. E. see Logusch E. W. 2711
Frechette R. see Wasserman H. H. 7571
Fréchou C. see Belkhouya N. 3977
Frede M. and **Steckhan E.** Continous electrochemical activation of flavoenzymes using polyethyleneglycol-bound ferrocenes as mediators: a model for the application of oxidoreductases as oxidation catalysts in organic synthesis 5063
Frederiksen J. Larsen B. D. and **Harrit N.** Photolysis of N-2,4,6-trinitrophenyl substituted amino acids 5823
Freeman G. A. see Almond M. R. 5745
Freeman P. K. Clapp G. E. and **Stevenson B. K.** The photochemistry of three tetrachloronaphthalenes 5705
Freire R. see Francisco C. G. 3413
Fremont S. L. Belletire J. L. and **Ho D. M.** Free radical cyclizations leading to four-membered rings-I. Beta-lactam production using tributyltin hydride 2335
French L. G. Fenlon E. E. and **Charlton T. P.** Rearrangement of epoxidized benzyne/furan cycloadducts: a convenient route to α-formyl and α-acyl-2-indanones 851
Frérot E. see Coste J. 1967
Friedrichsen W. see Aß mann L. 1161
Fritzberg A. R. see Gustavson L. M. 5485
Fronczek F. R. see Garcia J. G. 3289
Fronczek F. R. see Newkome G. R. 1133
Frontera A. see Saá J. M. 7313
Fu X. see Chamberlain T. 1707

Fuchikami T. see Urata H. 3091
Fuchikami T. see Urata H. 4733
Fuchikami T. see Urata H. 91
Fuchikami T. Ubukata Y. and **Tanaka Y.** Group 6 anionic μ-hydride complexes $[HM_2(CO)_{10}]^-$ (M = Cr, Mo, W): new catalysts for hydrogenation and hydrosilylation 1199
Fuchs P. L. see Anderson M. B. 4457
Fuchs P. L. see Lee S. W. 2861
Fuchs P. L. see Magar S. S. 7513
Fugami K. see Kimura M. 6359
Fuji K. Tanaka F. and **Node M.** Binaphthol as a chiral auxiliary: diastereoselective alkylation of binaphthyl esters of α,β-unsaturated carboxylic acids 7281
Fuji K. Tanaka K. Mizuchi M. and **Hosoi S.** Successive 1,4- and 1,2-additions of organometallic reagents to a chiral binaphthyl ester: one step synthesis of optically active ketones 7277
Fujieda H. see Suga H. 6911
Fujihara H. Ninoi T. Akaishi R. Erata T. and **Furukawa N.** First example of tetraalkyl substituted ditelluride dication salt from 1,5-ditelluracyclooctane 4537
Fujihara H. see Shibutani T. 2943
Fujihara H. see Shibutani T. 2947
Fujihara H. Yabe M. Chiu J.-J. and **Furukawa N.** *peri* Interaction between selenium atoms in dinaphtho[1,8-*b*,*c*]-1,5-diselenocin and 1,8-bis(methylseleno)naphthalene 4345
Fujii H. Oshima K. and **Utimoto K.** A practical and stereoselective reduction of 3-keto-2-methyl esters or 3-keto-2-methyl amides into *erythro*-3-hydroxy-2-methyl esters or *erythro*-3-hydroxy-2-methyl amides with $NaBH_4$ catalyzed by $MnCl_2$ 6147
Fujii M. see Togo H. 3377
Fujii M. see Yasui S. 5601
Fujii N. Habashita H. Shigemori N. Otaka A. Ibuka T. Tanaka M. and **Yamamoto Y.** A simple synthesis of ψ[(*E*)CH=CH]Gly dipeptide isosteres via reductive elimination of γ-oxygenated α,β-enoates with alkenylcopper reagents 4969
Fujii N. see Otaka A. 1223
Fujii T. Saito T. Mori S. and **Chikazawa J.** Synthesis of the sea anemone purine caissarone 97
Fujii Y. see Kende A. S. 2199
Fujimoto K. see Iwamoto K. 830
Fujimoto T. see Shono T. 525
Fujino S. see Kawase T. 3499
Fujio M. Miyamoto T. Tsuji Y. and **Tsuno Y.** Resonance effect in the solvolysis of α,α-di-*t*-butylbenzyl *p*-nitrobenzoates 2929
Fujio M. Tsuji Y. Otsu T. and **Tsuno Y.** Substituent effects on the solvolysis of o-methyl- and o,o'-dimethyl-α-*t*-butylbenzyl tosylates 1805
Fujioka H. see Kita Y. 6019
Fujioka H. Yamamoto H. Miyazaki M. Yamanaka T. Takuma K. and **Kita Y.** Reductive Beckmann fragmentation of α-alkoxycycloalkanone oxime acetates 5367
Fujisawa T. Mobele B. I. and **Shimizu M.** Enantioselective reduction of 4-oxo-3-tetrahydrothiopyranylacetates with baker's yeast and application to the synthesis of a prostaglandin intermediate in optically pure form 7055
Fujisawa T. see Kusumoto T. 939
Fujisawa T. see Ukaji Y. 2919
Fujisawa T. Ukaji Y. Noro T. Date K. and **Shimizu M.** A stereodivergent construction of β-lactam skeletons via condensation of ester enolates and a chiral imine 7563
Fujisawa T. Yamanaka K. Mobele B. I. and **Shimizu M.** Highly enantio- and diastereoselective reduction of sulfur-functionalized cyclic ketones with baker's yeast 399
Fujita K. Yamamura H. and **Imoto T.** A complete set of β-cyclodextrins $6^A,6^K$-diactivated by two different sulfonyl groups 6737
Fujita M. Ishizuka H. and **Ogura K.** Electronic effects on π-facial stereoselectivity in electrophilic additions to allylic bonds: stereoselective epoxidation of allylic fluorides 6355
Fujita M. see Ando T. 6379
Fujita M. Suzuki M. Ogata K. and **Ogura K.** Negative hyperconjugation does not play an important role in α-fluoro sulfides: an experimental demonstration 1463
Fujita M. Yazaki J. and **Ogura K.** Macrocyclic polynuclear complexes $[(en)M(4,4'\text{-bpy})]_4(NO_3)_8$ (M = Pd or Pt) as 'inorganic cyclophane.' Their ability for molecular recognition 5589
Fujita T. see Shono T. 6723
Fujita Y. see Kusumi T. 2923
Fujiwara K. see Tsunoda T. 1975
Fujiwara S. Shin-Ike T. Sonoda N. Aoki M. Okada K. Miyoshi N. and **Kambe N.** Novel selenium catalyzed synthesis of isothiocyanates from isocyanides and elemental sulfur 3503
Fujiwara T. see Takeda T. 5567
Fujiwara T. see Takeda T. 6563
Fukase K. Hashida M. and **Kusumoto S.** Application of 4-azidobenzyl group to protection of hydroxyl functions 3557
Fukase K. Yoshimura T. Hashida M. and **Kusumoto S.** 4-Pivaloylaminobenzyl ether, a new temporary protection for hydroxyl functions 4019
Fukazawa Y. Nakamura T. and **Usui S.** Synthesis and structure of 1,10-*o*-benzeno[2,2]orthocyclophane-5,6,12,15-diquinone. An experimental evidence for attractive interaction between *o*- and *p*-benzoquinone 3183
Fukuda H. see Hanzawa Y. 4143
Fukui M. see Ukaji Y. 2919
Fukumasa M. Furuhashi K. Umezawa J. Takahashi O. and **Hirai T.** Asymmetric synthesis of α-methyl carboxylic acid derivatives. Stereochemistry in acidic ring opening of epoxides 1059
Fukuoka K. see Abasaka T. 7695
Fukushima T. see Kusumi T. 2939
Fukuyama J. M. see Wasserman H. H. 7127
Fukuzawa A. Takasugi Y. and **Murai A.** Prelaureatin, a new biogenetic key intermediate isolated from *Laurencia nipponica* 5597
Fukuzawa S. Nimoto Y. and **Sakai S.** A facile cyclopropanol synthesis from β-halo ester with Grignard reagent–samarium(II) diiodide couple 7691
Fukuzumi S. see Otera J. 2405
Fung B. M. see Yang Z. 2061
Funhoff A. S. see Dauben W. G. 4643
Furber M. see Donald D. K. 1375
Furet N. see Cossy J. 1315
Furihata K. see Aoki M. 217
Furihata K. see Aoki M. 221
Furihata K. see Hayakawa Y. 213
Furihata K. see Nakagawa M. 659
Furihata K. see Shin-ya K. 943
Furst G. T. see Smith, III A. B. 6847
Fürstner A. Jumbam D. N. and **Weidmann H.** Titanium-induced syntheses of furans and indoles 6695

Furstoss R. see Königsberger K. 499
Furuhashi K. see Fukumasa M. 1059
Furukawa H. see Matsunaga K. 6883
Furukawa N. see Fujihara H. 4345
Furukawa N. see Fujihara H. 4537
Furukawa N. see Ogawa S. 3179
Furukawa N. see Shibutani T. 2943
Furukawa N. see Shibutani T. 2947
Furukawa S. see Kawagishi H. 4561
Fusco C. see Altamura A. 5445
Fusetani N. Nakao Y. and **Matsunaga S.** Nazumamide A, a thrombin-inhibitory tetrapeptide, from a marine sponge, *Theonella* sp. 7073
Fusetani N. see Matsunaga S. 5605
Fusetani N. Wolstenholme H. J. Matsunaga S. and **Hirota H.** Two new sesquiterpene isonitriles from the nudibranch, *Phyllidia pustulosa* 7291

Gable K. P. Reaction of O-allyl glucose with $[(Ph_3P)_2RhCl]_2$: an intramolecular H_2 transfer 23
Gable K. P. and **Benz G. A.** Rhodium(I)-catalyzed cyclizations of 3-C-alkenyl pentodialdose derivatives 3473
Gadamasetti K. G. see Sundberg R. J. 3035
Gaeta F. see Wong C.-H. 4867
Gaffney B. L. see Gao H. 5477
Gagnaire G. Jeunet A. and **Pierre J.-L.** An artificial allosteric system without metal cation binding: regulation of dipolar splitting in a biradical by a neutral molecular substrate 2021
Gál D. see Móger G. 5167
Galán A. Pueyo E. Salmerón A. and **de Mendoza J.** Selective complexation of adenosine monophosphate nucleotides by rigid bicyclic guanidinium abiotic receptors 1827
Galatsis P. and **Millan S. D.** Use of iodobenzene diacetate for the synthesis of α-iodoepoxides 7493
Gallagher R. T. see Smith, III A. B. 6847
Galons H. see Zhang P. 2769
Galy J.-P. see Barbe J. 6709
Gambacorta A. Turchetta S. Stefanelli S. and **Botta M.** Bicyclo[3.3.1]nonanes as synthetic intermediates. Synthesis of 1-hydroxy-*anti*-8-acetylbicyclo[4.2.2]decane 6805
Gandolfi R. see Burdisso M. 2659
Ganem B. see Luo J. 3145
Ganem B. see Yoon H. 7199
Ganesh S. and **Sarkar A.** Highly diastereoselective Michael addition to 2-arylidene-1-tetralones complexed with $Cr(CO)_3^+$ 1085
Gangakhedkar K. K. see Chakraborty T. K. 1897
Ganguli B. N. see Chatterjee S. 141
Ganguly A. K. see McCombie S. W. 2083
Ganguly A. K. see McCombie S. W. 2087
Gao H. Gaffney B. L. and **Jones R. A.** H-Phosphonate oligonucleotide synthesis on a polyethylene glycol/polystyrene copolymer 5477
Gao Y. and **Zepp C. M.** A practical synthesis of D-malate esters from L-tartrate esters 3155
Garcia J. G. Fronczek F. R. and **McLaughlin M. L.** Tandem reverse-electron-demand Diels–Alder reactions of 1,5-cyclooctadiene 3289
Garcia J. G. Voll R. J. and **Younathan E. S.** Stereoselective carbohydrate synthesis via palladium hydroxide catalyzed epoxide hydrogenolysis 5273
Garcia J. G. and **McLaughlin M. L.** Reverse-electron-demand Diels–Alder dienophile π-face selectivity via conformation dependent transmission of π-σ-π electronic interactions 3293
García Martínez A. Osío Barcina J. Hidalgo del Vecchio G. Hanack M. and **Subramanian L. R.** Non-hydrolytic cleavage of esters with magnesium iodide in aprotic non-polar solvents 5931
García Ruano J. L. see Brunet E. 5423
García Ruano J. L. Martín Castro A. M. and **Rodriguez J. H.** Reactions of chiral β-ketosulfoxides with Et_2AlCN: asymmetric synthesis of cyanohydrin derivatives 3195
García Ruano J. L. see Alonso I. 947
García Ruano J. L. see Bueno A. B. 3191
García Ruano J. L. see Solladié G. 3695
García-Granados A. Martínez A. Rivas F. Onorato M. E. and **Arias J. M.** Chemical-microbiological synthesis of 6β-eudesmanolides from 11-hydroxyl derivatives: synthesis of 6β-dendroserins by *Rhizopus nigricans* 5383
García-López M. T. see Gómez-Monterrey I. 1089
García-López M. T. see Herranz R. 7579
García-López Mª T. see Gómez-Monterrey I. 3563
García-Navío J. L. see Matia M. P. 7575
Garcías X. Ballester P. and **Saá J. M.** Palladium-catalyzed synthesis of chromenes and chromenols 7739
Gardiner J. M. see Jung M. E. 5717
Gareau Y. see Padwa A. 983
Garg C. P. see Singh O. V. 5619
Garín J. Merino P. Orduna J. Tejero T. and **Uriel S.** On the reaction of anthranilic acid with thionyl chloride: the actual structure of 'Kametani's sulfinamide anhydride' 3263
Garín J. see Fabre J.-M. 6407
Garratt P. J. Thorn S. N. and **Wrigglesworth R.** Regioselective and enantiospecific synthesis of 6-substituted and 5,6-disubstituted hexahydropyrimidines 691
Gasch C. see Fernández R. 3225
Gaskin P. A. see Bhaskar K. V. 6203
Gassman P. G. and **Lottes A. C.** 2π + 4π Cycloadditions of carbocation activated allenes 6473
Gatos D. see Barlos K. 471
Gatos D. see Barlos K. 475
Gaudin J.-M. Intramolecular Heck reaction with substrates possessing an allylic alcohol moiety 6113
Gautheron-Le Narvor C. see Wong C.-H. 4867
Gauthier A. D. see Caldwell G. W. 3763
Gauthier J. see Abraham N. A. 577
Gauthier V. Cazes B. and **Gore J.** Use of the carbopalladation of 1,2-propadiene in a two step synthesis of steroids 915
Gautier C. Leroy R. Monneret C. and **Roger P.** Synthesis of 3'-azido-5'homothymidine analogs 3361
Gauvin-Hussenet C. see Laronze J.-Y. 619
Gavuzzo E. see Zecchini G. P. 4375
Gavuzzo E. see Zecchini G. P. 6779
Gawley R. E. see Rein K. S. 1941
Geka R. see Ando T. 5107
Geletii Y. V. see Barton D. H. R. 3811

Gellman S. H. and Dado G. P. On the use of molecular mechanics calculations for the study of intramolecular hydrogen bonding phenomena 7377
Genêt J. P. Mallart S. Greck C. and Piveteau E. Electrophilic amination: first direct transfer of NHBoc with Li *t*-butyl-N-tosyloxycarbamate 2359
Genicot C. Gobeaux B. and Ghosez L. An efficient method for the vicinal acylation of unactivated olefins using keteniminium salts derived from protected α-hydroxy- or α-aminoacids 3827
Gennari C. see Bernardi A. 823
Génu-Dellac C. Gosselin G. and Imbach J.-L. Synthesis of new 2'-deoxy-3'-substituted-α-L-*threo*-pentofurano-nucleosides of thymine as potential antiviral agents 79
Geoffroy M. see Tronchet J. M. J. 4129
Georg G. I. Mashava P. M. Akgün E. and Milstead M. W. Asymmetric synthesis of β-lactams and *N*-benzoyl-3-phenylisoserines via the Staudinger reaction 3151
Georg G. I. Mashava P. M. and Guan X. An improved method for the stereoselective synthesis of β-lactams from carboxylic acids and imines 581
Georg G. I. and Akgün E. Stereoselective *syn* aldol reaction of the lithium ester inolate of ethyl *N,N*-dimethylglycine in the presence of triethylborane 5521
Gerardin P. see Loubinoux B. 351
Geri R. see Caporusso A. M. 7471
Gero S. D. see Barton D. H. R. 2471
Géro S. D. see Barton D. H. R. 4713
Getman D. P. DeCrescenzo G. A. and Heintz R. M. Selective functionalization of the C2 hydroxyl group of N-carbobenzyl-oxy-4,6-*O*-benzylidene-1-deoxynojirimycin 5691
Getman K. M. see Logusch E. W. 2711
Geysermans P. see Djukic J. P. 6703
Ghiron C. see Guanti G. 267
Ghosez L. see Genicot C. 3827
Ghosez L. see Gouverneur V. 5349
Ghosez L. see Sustmann R. 1401
Ghosh A. K. Duong T. T. and McKee S. P. Di(2-pyridyl) carbonate promoted alkoxycarbonylation of amines: a convenient synthesis of functionalized carbamates 4251
Ghosh A. K. Mckee S. P. and Sanders W. M. Stereoselective reduction of α-hydroxy oxime ethers: a convenient route to *cis*-1,2-amino alcohols 711
Ghosh A. K. McKee S. P. and Thompson W. J. Stereocontrolled synthesis of HIV-1 protease inhibitors with C_2-axis of symmetry 5729
Ghosh S. K. see Singh U. 255
Giacomini D. see Cainelli G. 121
Giacomini D. see Cainelli G. 2967
Giannaris P. A. see Damha M. J. 2573
Giaroni P. see Annunziata R. 1659
Giboreau P. see Berlan J. 2363
Gibson H. W. see Jois Y. H. R. 2997
Giese B. Damm W. Dickhaut J. Wetterich F. Sun S. and Curran D. P. Cram's rule for radical reactions 6097
Giese B. and Mehl W. Polar parameters for radical substituents 4275
Gigou A. Beaucourt J.-P. Lellouche J.-P. and Grée R. Total synthesis of (11*R*,12*S*)-diHETE 635
Gilbert I. Rees D. C. and Richardson R. S. Amide bond replacements: incorporation of a 2,5,5-trisubstituted imidazoline into dipeptides and into a CCK-4 derivative 2277
Gilchrist T. L. see Allcock S. J. 125
Gill W. see Creary X. 729
Gillard J. W. Fortin R. Grimm E. L. Maillard M. Tjepkema M. Bernstein M. A. and Glaser R. The unsymmetrical silaketal as a neutral, removable tether for effecting intramolecular Diels-Alder reactions 1145
Gillard J. W. see Hutchinson J. H. 573
Gimbert Y. and Moradpour A. 'Bis' and 'tris'[(2-bis (methylthio) methylene)-[1,3] benzodithioles] as new donors 4897
Gini R. H. see Yamazaki T. 4267
Gingras M. Tetrabutylammonium difluorotriphenylstannate as a new anhydrous synthetic equivalent ot TBAF 7381
Giomi D. see Nesi R. 6223
Giovannoni M. P. see Dal Piaz V. 3229
Giralt E. see Albericio F. 1515
Giralt E. see Eritja R. 1511
Giralt E. see Lloyd-Williams P. 4207
Girard J. P. see Niel G. 2613
Giraud B. see Nouguier R. 5529
Giraud L. see Crozet M. P. 4125
Girault J. P. see Hammoumi A. 651
Girdaukas G. see Harris K. J. 3941
Giunta L. see Pappalardo S. 7747
Givens R. S. and Singh R. Mechanistic pathways in phosphate ester photochemistry 7013
Glaser R. see Gillard J. W. 1145
Gleiter R. Ritter J. Irngartinger H. and Lichtenthäler J. Preparation and properties of 1-thia-6-azacyclodeca-3,8-diynes 2883
Gleiter R. Ritter J. Irngartinger H. and Lichtenthäler J. Preparation and properties of 1,6-diazacyclodeca-3,8-diynes 2887
Gloer J. B. see Tepaske M. R. 5687
Gmeiner P. and Bollinger B. Efficient methodology for the preparation of β-aminotetralin derivatives via electrophilic amination 5927
Gobbo M. see Filira F. 7463
Gobeaux B. see Genicot C. 3827
Goetz M. A. see Singh S. B. 5279
Gokel G. W. see Hernandez J. C. 6269
Golding P. Millar R. W. Paul N. C. and Richards D. H. Nitration by oxides of nitrogen–IV. Unexpected behaviour of certain aziridines and azetidines upon reaction with dinitrogen pentoxide 4985
Goldsmith D. and Soria J. J. Ultrasonically accelerated cycloaddition–rearrangement of enol ethers 2457
Goldstein G. see Kaestle K. L. 327
Goldstein S. W. McDermott R. E. Makowski M. R. and Eller C. α-Azido acids in heterocyclic synthesis 5493
Goleblowski A. see Johnson C. R. 2597
Goleblowski A. see Johnson C. R. 3931
Goli M. B. and Grim S. O. Reactivity o carbanions stabilized by two alpha phosphorus groups 3631
Golik J. Wong H. Krishnan B. Vyas D. M. and Doyle T. W. Stereochemical studies on esperamicins: determination of the absolute configuration of hydroxyamino sugar fragment 1851
Golinski M. Heine M. and Watt D. S. Prostaglandin F_{2a} photoaffinity probes: 18-phenoxy-19,20-bisnorprostanoids

bearing perfluorinated aryl azides 1553
Golsch D. see Adam W. 1041
Gómez-Monterrey I. Domínguez M. J. González-Muñiz R. Harto J. R. and **García-López M. T.** A facile synthesis of 8-amino-3-oxoindolizidine derivatives as conformationally restricted ornithyl pseudodipeptides 1089
Gómez-Monterrey I. Domínguez M^a J. González-Muñiz R. Harto J. R. and **García-López M^a T.** Synthesis of methyl 6-aralkyl-2,5-diketopiperidine-3-carboxylates as synthons of conformationally constrained pseudopeptides 3563
Gomez-Pardo D. see d'Angelo J. 3063
Gomez-Pardo D. and **d'Angelo J.** Revision of structure of a '$C_5H_6O_3$ substance' generated in the pyrolysis of biomass materials 3067
Gómez-Sánchez A. see Fernández R. 3225
Gonce F. Caminade A.-M. and **Majoral J. P.** Polyazetetraphosphorus P-C and P-N-N macrocycles 203
Gonzalez M. A. see Meyers A. I. 5501
Gonzalez M. A. see Meyers A. I. 5505
Gonzalez M. A. see Meyers A. I. 5509
González R. see Öztunç A. 4377
González-Muñiz R. see Gómez-Monterrey I. 1089
González-Muñiz R. see Gómez-Monterrey I. 3563
Gonzalez-Sierra M. see Vila A. J. 1929
Goodwin C. A. see Cheng L. 7333
Gopalsamy A. and **Anderson W. K.** Facile acyl migration in 6-*O*-acylcastanospermine 4669
Gore J. see Bouyssi D. 1641
Goré J. see Bouyssi D. 6541
Goré J. see Chaptal N. 1795
Gore J. see Gauthier V. 915
Gore J. see Koerber K. 1187
Gore J. see Monteiro N. 1645
Gorgues A. see Salle M. 2897
Gorrichon L. see Escudier J.-M. 5345
Gorys V. see Guindon Y. 5453
Gosmini R. see Mangeney P. 3981
Gosselin G. see Génu-Dellac C. 79
Goswami S. see Taylor E. C. 7357
Goti A. see Brandi A. 3265
Goto D. see Urata H. 3091
Goto T. see Kondo T. 6375
Goto T. see Yoshida K. 5575
Goto T. see Yoshida K. 5579
Gould A. E. see Smith, III A. B. 1627
Goulet M. T. and **Boger J.** Corrigendum 6454
Goulet M. T. and **Hodkey D. W.** Construction of an FK-506 analog from rapamycin-derived materials 4627
Gouverneur V. and **Ghosez L.** Asymmetric amination of carboxylic acids via a Diels-Alder strategy 5349
Gouygou M. see Etemad-Moghadam G. 3687
Graczyk P. see Mikołajczyk M. 4189
Graczyk P. and **Mikołajczyk M.** Unexpected mechanism of epimerization of 2-methylthiophosphonio-1,3-dithianes involving a reversible C-P bond cleavage 7329
Gradnig G. Berger A. Grassberger V. Stütz A. E. and **Legler G.** First synthesis of (*1R,2R,3S,9S,9aR*)-1,2,3,9-tetrahydroxyquinolizidine, a novel isosteric homologue of the glucosidase inhibitor castanospermine 4889
Graff R. see Trendel J. M. 2959
Graham R. J. and **Weiler L.** The stereoselective alkylation and conformational analysis of 15-hexadecanolide 1027
Gramain J.-C. see Troin Y. 6129
Grandas A. see Robles J. 4389
Grandjean C. see Chaptal N. 1795
Grandjean D. Pale P. and **Chuche J.** Synthesis of optically pure *cis* epoxyalcohols via an enzymatic route; an alternative to the Sharpless asymmetric epoxidation 3043
Granger T. see Bhamare N. K. 4439
Granja J. R. see Trost B. M. 2193
Gras J.-L. see Nouguier R. 5529
Gras J.-L. et **Pellissier H.** Synthèse asymétrique assistée par ligandes—I. Modélisation d'auxiliaires chiraux pour la réaction de Diels–Alder enantiosélective 7043
Grassberger M. see Edmunds A. J. F. 7039
Grassberger M. A. Horvath A. and **Schulz G.** Formation of tetrahydropyridines from arylnitriles with 2- and 1-propenyl-metals 7393
Grassberger V. see Gradnig G. 4889
Gravel D. see Lapierre J. M. 2319
Graves D. M. see Schultz A. G. 7499
Gravier-Pelletier C. Dumas J. Le Merrer Y. and **Depezay J. C.** Total synthesis of lipoxins A_4 and B_4 from D-isoascorbic acid 1165
Gray D. J. see Boyd D. R. 3887
Greck C. see Genêt J. P. 2359
Grée R. see Cherkaoui H. 7259
Grée R. see Gigou A. 635
Green D. L. C. and **Thompson C. M.** 'Remote' dianions–V. Synthesis of δ-coniceine 5051
Green J. R. and **Carroll M. K.** Nucleophilic substitution of tetracarbonyliron complexes of γ-acetoxy-crotonates: the homologous Michael reaction 1141
Green J. V. see Posner G. H. 6489
Green K. and **Blum D. M.** Hydrofluorination of anhydrothymidine via soluble aluminum derivatives 2091
Greene A. E. see Hartmann B. 5077
Greene A. E. see Hartmann B. 767
Greenlee W. J. see Rivero R. A. 2453
Greenlee W. J. see Rivero R. A. 5263
Greenspan M. D. see Thompson K. L. 3337
Greenspan P. see Baldwin S. W. 5877
Gref A. see Balavoine G. 2351
Gregoire P. J. Mellor J. M. and **Merriman G. D.** Synthesis of 11-azasteroids from aromatic amines, formaldehyde and cyclopentadiene 7099
Greiner A. see Chapel N. 1441
Gretler E. A. see Winkler J. D. 5733
Grieco P. A. Cooke R. J. Henry K. J. and **VanderRoest J. M.** Lithium perchlorate catalyzed conjugate addition of *O*-silylated ketene acetals to hindered α,β-unsaturated carbonyl compounds at atmospheric pressure 4665
Griengl H. see Baumgartner H. 611
Griengl H. see Klempier N. 341
Griengl H. see Königsberger K. 499
Grierson D. S. see Bettiol J.-L 7449
Grierson D. S. see Bettiol J.-L. 5413
Grierson D. S. see Trinh M.-C. 1447
Griffiths P. G. see Cameron D. W. 6179
Grigg R. Loganathan V. Santhakumar V. Sridharan V. and **Teasdale A.** Suppression of alkene isomerisation in products from intramolecular Heck reactions by addition of Tl(I) salts 687

Grigg R. see Allway P. 5817
Grigg R. see Coulter T. 5417
Grigg R. Sridharan V. and **Sukirthalingam S.** Alkylpalladium(II) species. Reactive intermediates in a bis-cyclisation route to strained polyfused ring systems 3855
Grigg R. Sukirthalingam S. and **Sridharan V.** Palladium catalysed tandem cyclisation–anion capture processes initiated by alkyl- and π-allyl-palladium species 2545
Grigg R. Teasdale A. and **Sridharan V.** Palladium catalysed intramolecular coupling of aryl and benzylic halides and related tandem cyclisations. A simple synthesis of hippadine 3859
Grigg R. and **Coulter T.** Sequential 1,3-dipolar cycloaddition-palladium catalysed cyclisation. A powerful new tactical combination 1359
Grigg R. and **Markandu J.** Palladium(II) catalysed tandem [2,3]-sigmatropic shift-1,3-dipolar cycloaddition processes in oxime O-allyl ethers 279
Grim S. O. see Goli M. B. 3631
Grimm E. L. see Gillard J. W. 1145
Grisenti P. see Santaniello E. 430
Grob C. A. Yang C. X. Della E. W. and **Taylor D. K.** Inductive charge dispersal in the solvolysis of 3-substituted bicyclo-[1.1.1]pentyl bromides 5945
Groenen L. C. Ruël B. H. M. Casnati A. Timmerman P. Verboom W. Harkema S. Pochini A. Ungaro R. and **Reinhoudt D. N.** *syn*-1,2-Dialkylated calix[4]arenes: general intermediates in the NaH/DMF tetraalkylation of calix[4]arenes 2675
Grognuz M. see Ashton P. R. 6235
Groh B. L. *E*-Vinylstannanes via stereospecific transmetallation with vinylalanes facilitated by lithium salts 7647
Grondin R. Leblanc Y. and **Hoogsteen K.** Synthesis of 2-amino C-glucosides and 2-amino C-glucoside spiroketals 5021
Gross L. see Franck-Neumann M. 2135
Gross Z. and **Hoz S.** Curve crossing analysis and rate–^{13}C chemical shift correlation in Michael reaction 5163
Grossi L. and **Montevecchi P. C.** Evidence for a mono-electron transfer process in the BF_3-promoted reaction of 4'-nitrobenzenesulphenanilide (NBSA) 5621
Grote C. W. see McClure C. K. 5313
Groundwater P. see Warrener R. N. 1885
Groutas W. C. Venkataraman R. Brubaker M. J. and **Tagusagawa F.** Facile redox formation of a 3-substituted maleimide from a 3-substituted N-hydroxysuccinimide 6093
Grübler G. see Shao J. 345
Grund C. see Fessner W.-D. 5935
Grunder-Klotz E. and **Ehrhardt J.-D.** The 3,4-dimethoxybenzyl moiety as a new N-protecting group of 1,2-thiazetidine 1,1-dioxides 751
Grushin V. V. and **Alper H.** Metal catalyzed carbonylation of *gem*-dibromocyclopropanes 3349
Gryaznov S. M. and **Potapov V. K.** A new approach to the synthesis of oligodeoxyribonucleotides with alkylamino groups linked to internucleotide phosphate groups 3715
Grynkiewicz G. see Priebe W. 2079
Grynkiewicz G. see Priebe W. 3313
Grynkiewicz G. see Priebe W. 7353
Grynszpan F. Dinoor N. and **Biali S. E.** Reductive and oxidative reactions of calix[4]arene derivatives 1909
Grynszpan F. and **Biali S. E.** Solution conformation and inversion barrier in *p-tert*-butyl-25,27-dihydroxycalix[4]arene 5155
Gu Q.-M. see Harris K. J. 3941
Gu Y. G. and **Wang K. K.** Stereoselective synthesis of both geometric isomers of γ-(trimethylsilyl)allylboranes and the diastereoselective condensations with aldehydes 3029
Gu Z. see Kelly T. R. 4263
Guan X. see Georg G. I. 581
Guanti G. Banfi L. Ghiron C. and **Narisano E.** Enantiospecific and diastereoselective synthesis of C_{11}-C_{17} fragment of tylonolide from 'asymmetrized *tris* (hydroxymethyl)methane 267
Guanti G. Banfi L. Navisano E. and **Thea S.** Stereoselective epoxidation of asymmetrized 2-alkenyl-1,3-propanediols 6943
Guanti G. Banfi L. and **Narisano E.** Protecting group controlled diastereoselective allylation of asymmetrized bis (hydroxymethyl)acetaldehydes (BHYMA®) 6939
Guarna A. see Belle C. 6395
Guarneri M. see Aghazade Tabrizi M. 683
Guarnieri F. see Wilson S. R. 3601
Gudima A. see Sanchez M. 2775
Guella G. Mancini I. N'Diaye I. and **Pietra F.** C_{20} Furanoterpenic aldehydes co-occurring in dictyoceratid sponges with conjugated furanosesterterpenic tetronic acids 6415
Guenot P. see Letulle M. 2013
Guérémy C. see Commerçon A. 1419
Guerquin-Kern J. L. see Maillard Ph. 4901
Guertin K. R. and **Chan T.-H.** Facile synthesis of α-hydroxy carbonyl compounds by enolate oxidation with dimethyldioxirane 715
Gug-Kim S. see Hosaka H. 785
Guile S. Saxton J. E. and **Thornton-Pett M.** Synthetic studies towards paspalicine—II. Synthesis of the eastern half 1381
Guiles J. see Meyers A. I. 5501
Guiles J. see Meyers A. I. 5505
Guiles J. see Meyers A. I. 5509
Guillaumet G. see Moreau P. 5525
Guillemont J. see Duhamel L. 4495
Guillemont J. see Duhamel L. 4499
Guillot C. and **Maignan C.** Conjugate additions of heteroanions to ethynyl *p*-tolyl (+)-(*R*)-sulfoxide 4907
Guindon Y. Lavallée J.-F. Boisvert L. Chabot C. Delorme D. Yoakim C. Hall D. Lemieux R. and **Simoneau B.** Stereoselective radical-mediated reduction and alkylation of α-halo esters 27
Guindon Y. Simoneau B. Yoakim C. Gorys V. Lemieux R. and **Ogilvie W.** Stereoselective opening of acetals derived from dimethyl tartrate 5453
Guinosso C. J. see Manoharan M. 7171
Guirado A. Zapata A. and **Fenor M.** A new method for the synthesis of N-arylphthalisoimides 2633
Guise L. E. see Jameson D. L. 1999
Guittet E. see Mahmood K. 6117
Gunasekera S. P. see Koehn F. E. 169

Gung B. W. Peat A. J. Snook B. M. and **Smith D. T.** An anomalous case of diastereofacial selectivity in the addition of chiral allylstannanes to benzaldehyde: is the 'inside alkoxy' effect involved? 453
Gung B. W. Smith D. T. and **Wolf M. A.** Remarkable increase in the diastereofacial selectivity of the addition of β-methyl α-(alkoxy)allylstannane to aldehydes: substituent effects on diastereofacial selectivity 13
Gung B. W. The difference in strength of BF_3-complexes of aromatic and aliphatic aldehydes 2867
Güntherberg H. see Müller H.-G. 2009
Guo C. and **Lu X.** Stereoselective synthesis of conjugated polyenones from diynones 7549
Gupta K. C. see Kumar P. 967
Gurjar M. K. see Rama Rao A. V. 6613
Gurjar M. K. and **Saha U. K.** Synthetic studies on the basic glycopeptide structure of C-mycosides 6621
Gurjar M. K. and **Srinivas N. R.** An enantiospecific approach towards the C_{10} side-chain of bengamides 3409
Gurjar M. K. and **Viswanadham G.** a stereoconvergent synthesis of the oligosaccharide segment of glycopeptidolipid antigen of *Mycobacterium avium* serotype 4: a dominant serovariant observed in patients with acquired immune deficiency syndrome 6191
Gurskaya G. see Zavgorodny S. 7593
Gustavson L. M. Rao T. N. Jones D. S. Fritzberg A. R. and **Srinivasan A.** Synthesis of a new class of Tc chelating agents: N_2S_2 monoaminemonoamide (MAMA) ligands 5485
Guyot M. see Litaudon M. 911
Gybin A. S. see Smit W. A. 2105
Gybin A. S. see Veretenov A. L. 2109

Ha C. see Newcomb M. 6493
Haake G. see Montforts F.-P. 3477
Haake G. see Montforts F.-P. 3481
Haarmann H. and **Eberbach W.** The use of furanyl titanium compounds for the synthesis of 2,4-substituted furans 903
Habashita H. see Fujii N. 4969
Habdas J. see Czuchajowski L. 7511
Hacksell U. see Vallgårda J. 5625
Hacksell U. see Vallgårda J. 7136
Hadi H. A. see Mahmood K. 6117
Hadjiarapoglou L. see Adam W. 1041
Hadjiarapoglou L. see Adam W. 1295
Hadjiarapoglou L. P. see Adam W. 6697
Hadley M. S. see Orlek B. S. 1241
Hagiwara A. see Jung M. E. 3025
Hagiwara H. see Harada N. 6757
Hagiwara H. see Harada N. 6761
Hahn Y. P. see Marx J. N. 1921
Haider K. W. Clites J. A. and **Berson J. A.** Transition state structure and frontier orbital influence on the cycloaddition reactions of 2,5-dimethyl-3,4-dimethylenethiophene with styrenes and benzaldehydes 5305
Hajdu J. see Kim U. T. 6521
Hajdu J. see Srivastava R. P. 6525
Halazy S. see Wolff-Kugel D. 6341
Hall D. see Guindon Y. 27
Hall D. Sévin A.-F. and **Warren S.** Synthesis of *Z* allylic alcohols with 1,4-related chiral centres by stereoselective epoxidation and the Horner–Wittig reaction 7123
Hall D. R. see Cork A. 129
Hamada K. see Shimizu H. 4359
Hamada T. Zenkoh T. Sato H. and **Yonemitsu O.** A chiral synthesis of (-)-cannabisativine: an application of the highly diastereo-selective hetero Diels-Alder reaction 1649
Hamada Y. Hayashi K. and **Shioiri T.** Efficient stereoselective synthesis of dolastatin 10, an antineoplastic peptide from a sea hare 931
Hamada Y. see Hayashi K. 7287
Hamada Y. Tanada Y. Yokokawa F. and **Shioiri T.** Stereoselective synthesis of 2,3-dihydroxy-4-dimethylamino-5-methoxypentanoic acid, a fragment of calyculins–determination of the absolute configuration of calyculins 5983
Hamaguchi S. see Kubo Y. 7419
Hamamichi N. Synthesis and mechanism of formation of novel tricyclic nucliosides, 3-β-D-ribofuranosylpyrazolo[3,2-*i*]purine derivatives, by a one-step reaction of 6-enaminopurine with hydrazine 7415
Hamano K. see Yamada S. 2379
Hamashima H. see Hayashi T. 2799
Hamdouchi C. see Solladié G. 3695
Hamelin J. see Himdi-Kabbab S. 2755
Hamelin J. see Latouche R. 1179
Hamilton L. see Boyd D. R. 2963
Hammond M. see Kaldor S. W. 5043
Hammoumi A. Revial G. D'Angelo J. Girault J. P. and **Azerad R.** Microbial hydroxylation and functionalization of synthetic bicyclic enones 651
Hammoumi A. see Aranda G. 1783
Han L. see Nakahira H. 229
Han S. see Choi J.-R. 6469
Han W. see Davis F. A. 1631
Hanack M. see García Martínez A. 5931
Hanamoto T. see Inanaga J. 6557
Hanamoto T. see Reddy G. B. 521
Hanamoto T. and **Inanaga J.** Sm_{12}-Promoted ketyl radical addition to *O*-benzyl formaldoxime. A new aminomethylation 3555
Hanaoka M. see Mukai C. 7553
Handa Y. see Inanaga J. 6371
Handa Y. see Inanaga J. 6557
Handel H. see Bernard H. 639
Handke G. see Krause N. 7225
Handke G. see Krause N. 7229
Hanekamp J. C. Rookhuizen R. B. v. d. Heuvel H. L. A. Bos H. J. T. and **Brandsma L.** A short and efficient synthesis of DE-A,B(22*E*,24*S*)-8β-(benzoyloxy)-25-hydroxyergost-22-ene a valuable intermediate in the total synthesis of 25-hydroxylated vitamin D_2-metabolites 5397
Hanessian S. see Chiara J. L. 1125
Hanessian S. and **Chemla P.** Synthesis of 19-*epi*-avermectin A_{1a} from avermectin B_{1a} 2719
Hani D. P. see Thompson K. L. 3337
Hanna I. see Pan J. 7543
Hanson J. C. see Berry P. D. 2683
Hansson T. and **Sterner O.** Studies of the conversions of sesquiterpenes in injured fruit bodies of *Lactarius vellereus*. A biomimetic transformation of stearoylvelutinal to isovelleral 2541
Hanzawa Y. Ito H. Kohara N. Sasaki H. Fukuda H. Morikawa T. Taguchi T. and **Iitaka Y.** Preparations of angularly trifluoromethylated compounds 4143
Hara M. see Chan K. L. 7719
Hara S. and **Suzuki A.** The organic synthesis using haloboration reaction—XX. A

simple synthesis of (2-bromoallyl)diphenoxyborane by the bromoboration of allene and its reaction with carbonyl compounds 6749
Harada K. see Nishiyama S. 6753
Harada N. Hagiwara H. Ono H. Uda H. Ohba S. Kubota M. Nishiyama S. Yamamura S. Hasegawa K. and **Sakoda M.** Revision of the structure of raphanusanins, phototropism-regulating substances of radish hypocotyls 6757
Harada N. Ono H. Hagiwara H. Uda H. Hasegawa K. and **Sakoda M.** Revision of the structure of raphanusamide, a phototropism-regulating substance of radish hypocotyls 6761
Harada N. see Suzuki T. 4505
Harada T. Kotani Y. Katsuhira T. and **Oku A.** Novel method for generation of secondary organozinc reagent: application to tandem carbon–carbon bond formation reaction of 1,1-dibromoalkane 1573
Harada T. Wada I. Uchimura J. Inoue A. Tanaka S. and **Oku A.** Enantiodifferentiating transformation of prochiral 1,3,5-pentanetriols controlled by intramolecular van der Waals attractions 1219
Haraguchi K. Itoh Y. Tanaka H. and **Miyasaka T.** Preparation and reactions of 2'- and 3'-vinyl bromides of uracilnucleosides: versatile synthons for anti-HIV agents 3391
Haraguchi K. Tanaka H. Itoh Y. and **Miyasaka T.** Nucleosidic enol esters: a versatile tool for the synthesis of 3'-carbon-substituted nucleosides 777
Harano K. Kiyonaga H. and **Hisano T.** [3,3]-Sigmatropic rearrangement of allylic xanthates in β-cyclodextrin 7557
Harano K. Ono K. Nishimoto M. Eto M. and **Hisano T.** A simple one-pot synthesis of hydroisobenzothiophenes via three-step sequential pericyclic reactions of xanthates 2387
Harashima S. see Mori K. 5995
Haratake M. see Matsunaga H. 7715
Harden D. B. see Battiste M. A. 5303
Harding K. E. Coleman M. T. and **Liu L. T.** Stereoselective reactions of *N*-acyl-*N,O*-acetals with 2-(trimethylsilyloxy)furan 3795
Hareau G. see Baudin J. B. 1175
Harger M. J. P. and **Shimmin P. A.** Preparation of simple *N*-(dialkylphosphinoyl) hydroxylamines and alkyl migration in the rearrangements of their *O-p*-nitrobenzenesulphonates 4769
Harkema S. see Groenen L. C. 2675
Harmange J.-C. see Figadère B. 7539
Harmata M. and **Claassen, II R. J.** Synthesis, deprotonation, and alkylation of S-allyl sulfoximines 6497
Harnden M. R. and **Jarvest R. L.** Synthesis of pyrrolidin-1-yl analogues of pyrimidine dideoxynucleosides 3863
Harpp D. N. see Williams C. R. 7651
Harpp D. N. see Folkins P. L. 7009
Harpp D. N. see Li C.-J. 1545
Harpp D. N. see Williams C. R. 7633
Harris C. M. see Kim S. J. 6073
Harris K. J. Gu Q.-M. Shih Y.-E. Girdaukas G. and **Sih C. J.** Enzymatic preparation of (3*S*,6*R*) and (3*R*,6*S*)-3-hydroxy-6-acetoxycyclohex-1-ene 3941
Harris N. J. and **Sebastian J. F.** *Ab initio* and semiempirical molecular orbital studies of alpha and beta lithiated vinyl ethers 6069
Harris P. A. see Katritzky A. R. 4247
Harris T. M. see Kim S. J. 6073
Harrit N. see Frederiksen J. 5823
Harrowven D. C. A concise synthesis of taiwanin E using a Michael initiated ring closure protocol 3735
Harrowven D. C. and **Pattenden G.** Cobalt mediated cyclisations of epoxy olefins 243
Hart D. J. and **Wu S. C.** Intramolecular addition of aryl radicals to vinylogous urethanes: studies toward preparation of the oxindole portion of gelsemine 4099
Hartke K. and **Rettberg N.** Tetrathiomalonic acid and its anions 4679
Hartmann B. Kanazawa A. M. Deprés J.-P. and **Greene A. E.** Improved preparation of angelate esters 5077
Hartmann B. Kanazawa A. M. Deprés J.-P. and **Greene A. E.** Stereoselective synthesis of homogynolide-A, a bakkane from *Homogyne alpina* 767
Hartmann K. see Knölker H.-J. 1953
Harto J. R. see Gómez-Monterrey I. 1089
Harto J. R. see Gómez-Monterrey I. 3563
Harusawa S. Osaki H. Yoneda R. Kurihara T. and **Ohishi H.** [3,3]Sigmatropic ring expansion of cyclic thionocarbonates-III. Computational evaluation of the transition states 1203
Harvey D. F. Lund K. P. and **Neil D. A.** Cyclization reactions of molybdenum and chromium carbene complexes with enynes 6311
Harvey D. F. and **Brown M. F.** Lewis acid catalyzed rearrangement of donor-acceptor substituted vinylcyclopropanes 2871
Harvey D. F. and **Brown M. F.** Synthesis and reactivity of alkynyloxy molybdenum carbene complexes: formation of cyclopropyl substituted dihydrofurans and dihydropyrans 5223
Harvey J. see Mirza S. 4111
Hasegawa E. Iwayama K. **Horaguchi T.** and **Shimizu T.** Free radical trapping of α-keto radicals derived from α,β-epoxy ketones via photoinduced single electron transfer process 2029
Hasegawa E. see Kamata M. 4349
Hasegawa E. see Kamata M. 7421
Hasegawa K. see Harada N. 6757
Hasegawa K. see Harada N. 6761
Hasegawa K. see Nishiyama S. 6753
Hasegawa M. see Kudo K. 4311
Hasegawa S. see Kitagawa M. 3531
Hasegawa T. see Niwa H. 1329
Hasegawa T. see Yoshioka M. 1471
Hasemann L. see Adam W. 7033
Hashida M. see Fukase K. 3557
Hashida M. see Fukase K. 4019
Hashimoto H. Kawanishi M. and **Yuasa H.** New and facile synthetic routes to 5-thioaldohexopyranosides via aldose monothioacetal derivatives 7087
Hashimoto K. and **Shirahama H.** Synthesis of new acromelic acid congeners: novel neuroexcitatory amino acids acting on glutamate receptor 2625
Hashimoto S. Ban M. Yanagiya Y. Sakata S. and **Ikegami S.** Stereocontrolled syntheses and biological profiles of (±)-6,7-dideoxyforskolin and its 13-epimer 4027
Hashimoto S. Honda T. and **Ikegami S.** A new and general glycosidation method for

podophyllum lignan glycosides 1653
Hashimoto Y. see Kudo K. 4311
Hasnaoui A. see El Hadrami M. 3985
Hastings D. J. and **Weedon A. C.** The origin of the regioselectivity in the 2 + 2 photochemical cycloaddition reactions of N-benzoylindole with alkenes: trapping of 1,4-biradical intermediates with hydrogen selenide 4107
Hata T. see Matsushima T. 5133
Hata T. see Ueno Y. 1347
Hatajima T. see Imamoto T. 2787
Hatakeyama S. Sugawara K. Kawamura M. and **Takano S.** Preparation of racemic and chiral alkyl(1,3-butadien-2-yl)methanol derivatives utilizing 1-trimethylsilyl-2,3-butadiene as a diene source 4509
Hatakeyama S. Sugawara K. and **Takano S.** Enantio- and stereocontrolled syntheses of branched-chain sugar, L-arcanose and L-olivomycose based on the chemistry of 1-trimethylsilyl-2,3-butadiene 4513
Hatanaka K. see Kita Y. 2035
Hatanaka K. see Kita Y. 4321
Hatanaka M. Himeda Y. and **Ueda I.** Cyclopentenones from allylidene triphenylphosphoranes and α-halo carbonyl compounds 4521
Hau J. F. Asseline U. and **Thuong N. T.** Octathymidylates involving alternating neopentylphosphothionotriester–phosphodiester linkages with controlled stereochemistry at the modified P-center 2497
Hawkins J. M. Loren S. D. and **Kim Y.-K.** Alkene isomerizations with boron trichloride-hydrogen chloride solutions 1635
Hay A. S. see Paventi M. 1617
Hayakawa T. see Shimizu M. 2053
Hayakawa Y. Kanamaru N. Morisaki N. Seto H. and **Furihata K.** Structure of lydicamycin, a new antibiotic of a novel skeletal type 213
Hayakawa Y. see Nakagawa M. 659
Hayakawa Y. see Shin-ya K. 943
Hayashi K. Hamada Y. and **Shioiri T.** On the reversal of the stereoselectivity in the Evans aldol reaction of α-amino aldehydes 7287
Hayashi K. see Hamada Y. 931
Hayashi K. see Murata O. 3539
Hayashi T. Highly diastereoselective aldol reactions of 4-thianone: a new strategy for synthesis of polypropionate frames 5369
Hayashi T. see Matsumoto Y. 3387
Hayashi T. Uozumi Y. Yamazaki A. Sawamura M. Hamashima H. and **Ito Y.** Silver(I)-catalyzed asymmetric aldol reaction of isocyanoacetate 2799
Hayashi Y. see Nishizawa M. 211
Hayashi Y. see Uemura M. 4565
Hayashi Y. see Uemura M. 4569
Hayes R. Ingham S. Saengchantara S. T. and **Wallace T. W.** Thermal electrocyclic ring-opening of cyclobutenes: substituents with complementary conrotatory preferences induce high stereoselectivity 2953
Hazen G. G. see Loewe M. F. 2299
He H. M. see Somfai P. 283
Heaney H. see Earle M. J. 6171
Heaton J. N. see Bryce M. R. 7459
Hecquet L. see Demuynck C. 5085
Heeg M. J. see Stolze D. A. 4081
Heffernan G. D. see Campbell M. M. 1237
Helder M. see Maier G. 1961
Heine M. see Golinski M. 1553
Heinis D. see Rossiter B. E. 3973
Heintz R. M. see Getman D. P. 5691
Heissler D. Jenn T. and **Nagano H.** A radical-based synthesis of (*Z,Z*)-tricyclohexaprenol 7587
Heitz A. see Aracil J.-M. 2609
Heitz A. see Rodriguez M. 923
Heitz V. Chardon-Noblat S. and **Sauvage J.-P.** An unsymmetrical gold(III)-zinc(II) oblique bis-porphyrin 197
Heitz V. see Collin J.-P. 5977
Helber M. J. see Burke S. D. 4655
Helinski J. Dabkowski W. and **Michalski J.** N,N-Diisopropyl-O-*p*-nitrophenyl-P-methylphosphonamidite: novel difunctional P^{III} reagent in oligonucleoside methylphosphonate synthesis containing 4-nitrophenoxy group 4981
Helquist P. see Connell R. D. 17
Helquist P. see Zhao S. 5753
Helquist P. see Zhao S.-K. 447
Hemamalini P. see Srikrishna A. 6609
Henderson I. see Burgess K. 5701
Hendrickson R. L. see Cardellina, II J. H. 2347
Hénichart J. P. see Malochet-Grivois C. 6701
Henry K. J. see Grieco P. A. 4665
Heravi M. M. see Nuss J. M. 5243
Herdewijn P. Kerremans L. Wigerinck P. Vandendriessche F. and **Van Aerschot A.** Synthesis of thymidine from 5-iodo-2'-deoxyuridine 4397
Herdewijn P. see Van Aerschot A. 1905
Hermans B. see Krief A. 3231
Hernández A. E. see Rossiter B. E. 3973
Hernandez J. C. Trafton J. E. and **Gokel G. W.** A direct comparison of extraction and homogeneous binding constants as predictors of efficacy in alkali metal cation transport 6269
Hernández-Galán R. see Collado I. G. 3209
Hernández-Mateo F. see Santoyo-González F. 1371
Herranz R. Suárez-Gea M. L. Vinuesa S. García-López M. T. and **Martínez A.** Synthesis of ψ[CH(CN)NH]pseudopeptides. A new peptide bond surrogate 7579
Herscovici J. Boumaïza L. and **Antonakis K.** Highly stereoselective preparation of conjugated dienones and dienoates via a new Knoevnagel approach 1791
Herscovici J. Delatre S. and **Antonakis K.** Enantiospecific naphthopyran synthesis by intramolecular Diels-Alder cyclisation of 4-keto 2,3-unsaturated C-glycosides 1183
Herz J. E. Swaminathan S. Wilson W. K. and **Schroepfer, Jr. G. J.** Inhibitors of sterol synthesis. An efficient and specific side chain oxidation of 3β-hydroxy-5α-cholest-8(14)-en-15-one. Facile access to its metabolites and analogs 3923
Hesse M. see Vavrecka M. 5543
Heß U. Brosig H. and **Fehlhammer W. P.** Electrochemical synthesis of isocyanides 5539
Hetru C. see Mauvais A. 5171
Hevesi L. see Krief A. 3231
Hickman D. N. Wallace T. W. and **Wardleworth J. M.** The preparation of α-tetralones from benzocyclobutenones via sequential thermal electrocyclic reactions 819
Hidalgo del Vecchio G. see García Martínez A. 5931
Hiemstra H. see Koot W.-J. 401
Hiemstra H. see Lolkema L. D. M. 1491
Hiemstra H. see Roos E. C. 6633
Hiemstra H. see Rutjes F. P. J. T. 6629
Hiemstra H. see Udding J. H. 3123

Higa T. see Pham A. T. 4843
Higuchi H. see Yamamoto G. 5129
Higuchi K. see Izumi Y. 4741
Higuchi T. Ohtake H. and **Hirobe M.** Highly efficient oxygen transfer reactions from various heteroaromatic N-oxides to olefins, alcohols, and catalyzed by ruthenium porphyrin 7435
Hikosaka T. see Oshiki T. 3371
Hill D. R. see Barnish I. T. 405
Hill D. R. see Szántay, Jr. C. 2529
Hill J. M. see Barrett A. G. M. 3285
Hill T. G. see Wang P. 6827
Hill T. G. Wang P. Huston M. E. Wartchow C. A. Oehler L. M. Smith M. B. Bednarski M. D. and **Callstrom M. R.** Carbohydrate protein conjugates (CPC): the design of new materials to stabilize enzymes 6823
Hill, Jr. R. H. see Smith M. J. 991
Himdi-Kabbab S. and **Hamelin J.** Attempts of arsirane synthesis by addition of diazcompounds with arsaalkenes 2755
Himeda Y. see Hatanaka M. 4521
Hines J. V. see Pearson W. H. 5513
Hino T. see Mashima K. 3101
Hirai T. see Fukumasa M. 1059
Hirama M. see Suzuki T. 4505
Hirama M. see Tanaka T. 3175
Hirao T. Mikami S. Mori M. and **Ohshiro Y.** Novel allylic oxidation of conjugate ketones with $VO(OR)Cl_2$ 1741
Hirashima T. see Mizuno T. 6867
Hirobe M. see Higuchi T. 7435
Hirobe M. see Yamaguchi T. 1729
Hirofuji H. see Akiyama T. 1321
Hirosawa C. see Komatsu K. 6767
Hirosawa C. see Toshimitsu A. 4317
Hirota H. see Fusetani N. 7291
Hirota M. see Araki S. 6587
Hirschbein B. L. see Vu H. 3005
Hirschmann R. see Spanevello R. A. 4675
Hirsenkorn R. Short-cut in the Pomeranz-Fritsch synthesis of 1-benzyl-isoquinolines; short and efficient syntheses of norreticuline derivatives and of papaverine 1775
Hisano T. see Harano K. 2387
Hisano T. see Harano K. 7557
Hitchcock P. B. see Bowler A. N. 2679
Hitchcock P. B. see Chaloner P. A. 6037
Hixson S. S. and **Xing Y.** Electron transfer mediated addition of methanol to benzobicyclo[3.1.0]hex-2-ene 173
Hiyama T. see Kuroboshi M. 1215
Hiyama T. see Kusumoto T. 939
Hiyama T. see Reddy G. B. 521
Hizatate S. see Endo Y. 2803
Hlasta D. J. Court J. J. and **Desai R. C.** The synthesis of substituted saccharins through the *o*-lithiative sulfonamidation of *N,N*-diethylbenzamides 7179
Ho D. M. see Fremont S. L. 2335
Ho M. Wang W. Louvlos M. Pham T. and **Klock T.** Synthesis of an ethylene glycol cross-linked amino acid 1283
Hodkey D. W. see Goulet M. T. 4627
Høeg-Jensen T. Jakobsen M. H. Olsen C. E. and **Holm A.** Formation of peptide thioamides by use of Fmoc amino monothioacids and PyBOP 7617
Høeg-Jensen T. Jakobsen M. H. and **Holm A.** A new method for rapid solution synthesis of shorter peptides by use of PyBOP® 6387
Hoem A. B. see Walters M. A. 179
Höfer J. Doucet H. Bruneau C. and **Dixneuf P. H.** Ruthenium catalysed regioselective synthesis of *O*-1-(1,3-dienyl) carbamates directly from CO_2 7409
Höffgen E. C. see Paulsen H. 2747
Hoffman R. V. and **Salvador J. M.** A simple, one-flask transformation of ketones to N-methyl lactams 2429
Hoffmann R. see Kusche A. 467
Hohberg T. see Risch N. 4465
Hojo M. see Hosomi A. 2371
Hojo M. see Masuda R. 1195
Hojo M. see Tominaga Y. 5987
Holdgrün X. K. and **Sih C. J.** A chemoenzymatic synthesis of optically-active dihydropyridines 3465
Hollósi M. Kollát E. Laczkó I. Medzihradszky K. F. Thurin J. and **Otvös, Jr. L.** Solid-phase synthesis of glycopeptides: glycosylation of resin-bound serine-peptides by 3,4,6-tri-O-acetyl-D-glucose-oxazoline 1531
Hollosi M. see Urge L. 3445
Holm A. see Høeg-Jensen T. 6387
Holm A. see Høeg-Jensen T. 7617
Holm A. see Jakobsen M. H. 6199
Holm A. see Stærkær G. 5389
Holmes A. B. see Curtis N. R. 537
Holmes M. A. see Shih T. L. 3663
Holsworth D. D. see Rigby J. H. 5757
Holzapfel C. W. see Engelbrecht G. J. 2161
Hon P. M. see Yang Z. 2061
Honda T. see Hashimoto S. 1653
Honda T. see Yamaguchi T. 1729
Hondrogiannis G. Pagni R. M. Kabalka G. W. Kurt R. and **Cox D.** The reaction of optically active menthyl acrylate with cyclopentadiene on γ-alumina 2303
Hong P.-C. see Chou T.-C. 6351
Hong Y.-L. V. see Sheu J.-H. 1045
Honnoraty A.-M. see Mion L. 7401
Hoogsteen K. see Grondin R. 5021
Höper F. see Montforts F.-P. 3477
Höper F. see Montforts F.-P. 3481
Hopkins P. B. see Solomon M. S. 3297
Horaguchi T. see Hasegawa E. 2029
Hori M. see Kataoka T. 105
Hori M. see Shimizu H. 4359
Hori M. see Shimizu H. 5571
Horikawa Y. see Ishii A. 4313
Hörsch B. see Effenberger F. 2605
Horvath A. see Grassberger M. A. 7393
Hosaka H. Suzuki Y. Gug-Kim S. and **Takaku H.** A convenient approach to the synthesis of medium size deoxyribooligonucleotides by improved new phosphite method 785
Hoshino M. see Ishii A. 4313
Hoshino O. see Ishizaki M. 7079
Hosmane R. S. and **Liebman J. F.** Aromaticity of heterocycles: experimental realization of Dewar–Breslow definition of aromaticity 3949
Hosoi S. see Fuji K. 7277
Hosokawa H. see Aimi N. 4949
Hosomi A. see Tominaga Y. 5987
Hosomi A. Yanagi T. and **Hojo M.** Tandem conjugate addition-aldol reaction to α,β-unsaturated esters and ketones using titanium amide 2371
Hosoya T. see Matsumoto T. 6735
Hossain M. M. see Olson A. S. 5299
Hossain Md. A. see Donaldson W. A. 7047
Houchigai H. see Kudo K. 4311
Hougaard L. Anthoni U. Christophersen C. and **Nielsen P. H.** Two new diterpenoid dihydroxy-γ-butyrolactones from *Bifurcaria bifurcata* (Cystoseiraceae) 3577
Houk K. N. see Montero V. A. 5309
Houk K. N. see Smith D. A. 1549
Houpis I. N. Palladium(II)-catalyzed coupling of 2-carboxyethyl enol triflates with organostannanes 6675

Hoye T. R. and **Dinsmore C. J.** Double (internal/external) alkyne insertion reactions of α-diazoketones 3755
Hoz S. see Gross Z. 5163
Hruby V. J. see Kazmierski W. M. 5769
Hu C.-M. and **Qiu Y.-L.** Co/Zn Bimetal redox system promoted hydroperfluoroalkylation of acrylates with perfluoroalkyl iodides 4001
Hu N.-X. see Urata H. 4733
Hu Y. see Newkome G. R. 1133
Huang C.-W see Sheu J.-H. 5547
Huang D.-Z. see Xu X.-X. 5785
Huang L.-F. see Zhou W.-S. 6745
Huang Y. Mullah N. Sopchik A. E. Arif A. M. and **Bentrude W. G.** Corrigendum 3900
Huang Y. Mullah N. N. Sopchik A. E. Arif A. M. and **Bentrude W. G.** Unexpected axial preference of the Me_2N substituent on the phosphorus atom of the P(III) 1,3,2-oxazaphosphorinane ring system 899
Huang Y.-Z. see Wang W.-B. 3999
Huang Y.-Z. see Zhang L.-J. 6579
Huang Z.-H. see Zhang L.-J. 6579
Hudlicky M. and **Merola J.** Corrigendum 3134
Hudlicky T. and **Olivo H. F.** Stereospecific synthesis of aminocyclitols via cycloadditions of unsymmetrical, optically pure dienes: Conduramine A-1 and Dihydroconduramine A-1 6077
Hudson C. M. see Moeller K. D. 2307
Hueso-Rodríguez J. A. see Domínguez G. 4765
Huffman W. F. see Callahan J. F. 7203
Hughes L. see Mordi R. C. 4203
Huisgen R. see Brückner R. 1871
Huisgen R. see Brückner R. 1875
Hull K. G. see Smith, III A. B. 4855
Hull K. G. see Smith, III A. B. 4859
Hulme A. N. see Paterson I. 7601
Humber D. C. see Bamford M. J. 271
Hung S.-C. and **Liao C.-C.** Diels–Alder reactions of 8-trimethylsilyloxy-1,4-dioxaspiro[4,5]deca-6,8-diene 4011
Hung S.-H. see Chou T. 3551
Hungate R. W. Chen J. L. and **Starbuck K. E.** Synthesis of cyclic valine analogs 6851
Hunter J. E. see Pews R. G. 7191
Hunter R. Bartels B. and **Michael J. P.** Reduction of activated ketals with borane-dimethyl sulphide 1095
Hur C. U. see Lee E. 5101
Hurley T. B. see Kanavarioti A. 6065
Hurst D. N. see Attwood M. R. 811
Hursthouse M. B. see Abarca B. 4977
Hursthouse M. B. see Bryce M. R. 6029
Hussain K. A. see Chakraborty T. K. 7597
Hussain R. A. see Nasution M. P. 5915
Husson H.-P. see Bettiol J.-L. 5413
Husson H.-P. see Bettiol J.-L. 7449
Husson H.-P. see Deprez P. 7531
Husson H.-P. see Lienard P. 2489
Husson H.-P. see Zhu J. 2485
Huston M. E. see Hill T. G. 6823
Huszthy P. see Krakowiak K. E. 21
Hutchins C. W. see Wittenberger S. J. 7655
Hutchinson J. H. Daynard T. S. and **Gillard J. W.** Silaketals as tethers in intramolecular radical cyclisations 573
Hutchinson R. see Donald D. K. 1375
Huval C. C. see Singleton D. A. 5765
Huynh-Dinh T. see Le Bec C. 6553
Hwang J. S. Siddiqui M. N. and **Bukhari A. M.** Thermolysis of 7-isopropylidene-2,3-diazabicylo [2.2.1] hept-2-ene in the presence of spin trap 3711
Hwang J.-T. and **Liao C.-C.** Synthesis of angularly and linearly fused triquinanes via the common intramolecular Diels–Alder adduct of a masked *o*-benzoquinone 6583
Hwang T. S. see Kang S. H. 4015
Ianelli S. see Jamart-Grégoire B. 3069

Ibata T. see Suga H. 6911
Ibuka T. see Fujii N. 4969
Ichi T. see Masuda R. 1195
Ichiba T. see Pham A. T. 4843
Ichida H. see Tokitoh N. 6877
Ichihara A. see Oikawa H. 4533
Ichikawa H. see Yamada S. 2379
Ichikawa T. see Miyairi S. 1213
Ichikawa Y. see Wong C.-H. 4867
Ifill A. D. see Cliffe I. A. 6789
Ignatenko A. V. see Nikishin G. I. 1077
Ihmels H. Maggini M. Prato M. and **Scorrano G.** Oxidation of diazo compounds by dimethyl dioxirane: an extremely mild and efficient method for the preparation of labile α-oxo-aldehydes 6215
Iimori T. Murai Y. Ohuchi S. Kodama Y. Ohtsuka Y. and **Oishi T.** 2'-*C*-, 3'-*C*- and 5'-*C*-methylsangivamycins: conformational lock with the methyl group 7273
Iimori T. Ohtsuka Y. and **Oishi T.** Regioselective dehydration in cyclic system with triphenylphosphine-azodicarboxylate 1209
Iimura S. see Sekine M. 395
Iino T. see Yoshimura Y. 6003
Iino Y. see Nitta M. 6727
Iitaka Y. see Hanzawa Y. 4143
Iitaka Y. see Ishizaki M. 7079
Iitaka Y. see Itokawa H. 1803
Ikawa A. see Mandai T. 7687
Ikeda H. see Nishizawa M. 211
Ikeda I. Tanaka J. and **Suzuki K.** Synthesis of acrylic esters by lipase 6865
Ikeda M. see Ishibashi H. 1725
Ikegami S. see Hashimoto S. 1653
Ikegami S. see Hashimoto S. 4027
Ikegami S. see Okamura H. 5137
Ikegami S. see Okamura H. 5141
Ikematsu Y. see Ishibuchi S. 3523
Ikuma T. see Togo H. 3377
Imagawa H. see Nishizawa M. 5551
Imai N. see Corey E. J. 7517
Imajo S. see Tanaka T. 3175
Imamoto T. Hatajima T. and **Ogata K.** Cerium chloride-promoted unusual coupling reactions of alkenyl Grignard reagents and alkenyllithiums 2787
Imamoto T. see Koide Y. 3375
Imamoto T. see Oshiki T. 3371
Imamura H. see Murakami N. 1331
Imamura Y. see Kigoshi H. 4541
Imanishi N. see Tanabe Y. 379
Imbach J.-L. see Génu-Dellac C. 79
Imbach J.-L. see Montero J.-L. 5357
Imbach J.-L. see Péoc'h D. 207
Imoto T. see Fujita K. 6737
Imre S. see Öztunç A. 4377
Ina H. and **Kibayashi C.** A total synthesis of (+)-castanospermine 4147
Inagaki H. see Niwa H. 5127
Inagaki M. see Kita Y. 2035
Inagaki M. see Kita Y. 4321
Inamasu T. see Tani H. 2039
Inanaga J. Handa Y. Tabuchi T. Otsubo K. Yamaguchi M. and **Hanamoto T.** A facile reductive dimerization of conjugated acid derivatives with samarium diiodide 6557

Inanaga J. Katsuki J. Ujikawa O. and **Yamaguchi M.** Carbon–carbon bond formation by intermolecular radical reaction. SmI_2-Promoted carbonyl–alkyne reductive coupling 4921
Inanaga J. see Hanamoto T. 3555
Inanaga J. see Katsuki J. 4963
Inanaga J. Ujikawa O. and **Yamaguchi M.** SmI_2-Promoted aryl radical cyclization. A new synthetic entry into heterocycles 1737
Inanaga J. Yokoyama Y. Baba Y. and **Yamaguchi M.** Selective reduction of alkynes by the reagent SmI_2-transition metal catalysts–proton donors 5559
Inanaga J. Yokoyama Y. Handa Y. and **Yamaguchi M.** Preparation of medium- and large-sized carbocycles by means of SmI_2-promoted intramolecular Reformatsky reaction 6371
Ingham S. see Hayes R. 2953
Ingold K. U. see Mordi R. C. 4203
Inokawa H. see Okada K. 6363
Inoue A. see Harada T. 1219
Inoue I. see Tomioka K. 3095
Inoue K. see Motomura T. 4757
Inoue M. see Kotsuki H. 4159
Inoue S. see Mori A. 4333
Iqbal J. Khan M. A. and **Nayyar N. K.** Cobalt(II)chloride catalysed acylation of anisole 5179
Iqbal J. see Nayyar N. K. 6965
Iqbal J. and **Srivastava R. R.** Cobalt(II) chloride catalysed condensation of acetoacetate with enolisable aldehydes 1663
Ireland C. M. see Swersey J. C. 6687
Ireland E. see Brimble M. A. 6417
Irie K. see Ando T. 5107
Irie M. see Yokoyama M. 7269
Irie R. Ito Y. and **Katsuki T.** Catalytic epoxidation with molecular oxygen using nickel complex 6891
Irie R. Noda K. Ito Y. and **Katsuki T.** Enantioselective epoxidation of unfunctionalized olefins using chiral (salen)manganese(III) complexes 1055
Irngartinger H. see Gleiter R. 2883
Irngartinger H. see Gleiter R. 2887
Isahaya Y. see Tezuka T. 4955
Isaka M. Ando R. Morinaka Y. and **Nakamura E.** One-pot synthesis of substituted cyclopropenone ketals via alkylation of 3,3-dialkoxy-2-sodiocyclopropenes 1339
Ishibashi H. Nakamura N. Sato T. Takeuchi M. and **Ikeda M.** Radical cyclizations of *N*-vinylic α-chloroacetamides. 5-*endo*-Trig and 4-*exo*-trig cyclizations 1725
Ishibashi M. see Kikuchi Y. 797
Ishibashi M. see Kobayashi J. 1227
Ishibashi M. see Murata O. 3539
Ishibashi T. see Suzuki H. 6591
Ishibuchi S. Ikematsu Y. Ishizuka T. and **Kunieda T.** Lewis acid-promoted direct substitution of 4-methoxy- and 4-phenylthio-2-oxazolidinones by alkyl cuprates. Facile prepartion of (3*S*,4*S*)-statine and (3*S*,4*S*)-cyclohexylstatine 3523
Ishida M. see Padwa A. 5673
Ishifune M. see Shono T. 1051
Ishiguro K. see Tsukamoto M. 7083
Ishiguro M. see Tanaka T. 3175
Ishiguro Y. see Kawagishi H. 4561
Ishihara H. see Nagasawa K. 4937
Ishihara T. Miwatashi S. Kuroboshi M. and **Utimoto K.** Zinc-copper(I) chloride or -silver acetate promoted coupling reaction of 2-[(trimethylsilyl)methyl]-3-chloro-3,3-difluoropropene with carbonyl compounds. Highly efficient access to 2,2-difluoro homoallyl alcohols 1069
Ishii A. Horikawa Y. Takaki I. Shibata J. Nakayama J. and **Hoshino M.** Preparation of 2,5-bis(diarylmethylene)-2,5-dihydrothiophenes and their furan, selenophene, and *N*-methylpyrrole analogs 4313
Ishii H. Kobayashi J.-I. and **Ishikawa T.** Toddacoumalone, a novel mixed dimer of coumarin and quinolone from *Toddalia asiatica* (L.) Lam. *(T. Aculeata* Pers.) 6907
Ishikawa A. and **Katsuki T.** Kinetic resolution of LD-2,3-epoxy alcohols using chiral titanium complex with amino alcohol derived ligand 3547
Ishikawa T. see Ishii H. 6907
Ishikawa T. see Saito S. 663
Ishikawa T. see Saito S. 667
Ishitsuka M. O. Kusumi T. and **Kakisawa H.** Isolation of a monomeric counterpart of the marine biscembranoids, a biogenetic Diels-Alder precursor 2917
Ishitsuka M. O. Kusumi T. and **Kakisawa H.** Difference CD spectrum: the absolute configuration of methyl sarcophytoate 6595
Ishiwata H. see Takahashi Y. 1067
Ishiyama K. see Hasegawa E. 2029
Ishiyama T. Miyaura N. and **Suzuki A.** Palladium-catalyzed carbonylative cross-coupling reaction of iodoalkanes with 9-alkyl-9-BBN derivatives. A direct and selective synthesis of ketones 6923
Ishizaki M. Hoshino O. and **Iitaka Y.** A first total synthesis of montanine-type Amaryllidaceae alkaloids, (±)-coccinine, (±)-montanine, and (±)-pancracine 7079
Ishizuka H. see Fujita M. 6355
Ishizuka T. see Ishibuchi S. 3523
Ishizuka T. see Matsunaga H. 7715
Islam Q. see Chu C. K. 3791
Isobe M. see Kondo T. 6375
Isono K. see Koshino H. 7707
Isono N. see Mori M. 6139
Itani H. see Uyeo S. 2143
Itaya N. see Tanabe Y. 383
Itezono Y. see Aoki M. 217
Itezono Y. see Aoki M. 221
Itezono Y. see Aoki M. 4737
Ito H. see Hanzawa Y. 4143
Ito S. Morita N. and **Asao T.** Azulene analogues of triphenylmethyl cation; extremely stable hydrocarbon carbocations 773
Itô S. see Nishizawa M. 211
Ito S. see Niwa H. 1329
Itô S. see Tsunoda T. 1975
Ito T. see Ochiai M. 1327
Ito T. Yamakawa I. Okamoto S. Kobayashi Y. and **Sato F.** A new stereoselective method for synthesis of optically active β-alkylhomoallyl alcohols and γ,δ-epoxy-β-alkyl alcohols 371
Ito Y. Kunimoto K. Miyachi S. and **Kako T.** Photocatalytic cleavage of 1,2-diols by a cofacially hindered water-soluble iron(III) prophyrin 4007
Ito Y. see Hayashi T. 2799
Ito Y. see Irie R. 1055
Ito Y. see Irie R. 6891
Ito Y. see Nakano T. 1569
Ito Y. see Okamura H. 5141
Itoh N. see Satoh T. 5599
Itoh Y. see Haraguchi K. 3391
Itoh Y. see Haraguchi K. 777
Itokawa H. Kishi E. Morita H. Takeya K. and **Iitaka Y.** Eurylene, a new squalene-type triterpene from *Eurycoma longifolia* 1803
Iwabuchi Y. see Takano S. 3527
Iwaki H. see Kuroda S. 655
Iwaki S. see Ochiai M. 4945

Iwamoto K. Fujimoto K. Matsuda T. and **Shinkai S.** Corrigendum 830
Iwasaki S. see Miyoshi M. 6007
Iwasaki T. see Takahashi M. 6919
Iyanar K. see Abramovitch R. A. 5251
Iyer R. R. see Brown H. C. 3655
Izatt R. M. see Krakowiak K. E. 21
Izumi Y. Nanami H. Higuchi K. and **Onaka M.** Hydrosilylation of carbonyl compounds catalyzed by solid acids and bases 4741

Jaafar A. Alilou El. H. Réglier M. and **Waegell B.** Unexpected [2+2+2] MIMIRC annulation between a lithium dienolate and methyl acrylate 5531
Jackson J. E. see Cauliez P. M. 5039
Jackson M. L. see Epling G. A. 7507
Jackson R. F. W. see Bailey P. L. 3119
Jackson R. F. W. Standen S. P. and **Clegg W.** Control of diastereofacial selectivity in the nucleophilic epoxidation of γ-oxygenated-α,β-unsaturated sulphones 5393
Jackson S. W. see Bowman W. R. 2285
Jackson W. R. see Anastasiou D. 2499
Jackson W. R. see Campi E. M. 1093
Jacobi P. A. and **Cai G.** 2-Oxo-3-butenoate esters as dienophiles and their utility in a novel synthesis of pyrroles 1765
Jacobi P. A. and **Zheng W.** A novel synthesis of juncusol 1279
Jacobsen E. N. see Lee N. H. 5055
Jacobsen E. N. see Lee N. H. 6533
Jacobsen E. N. see Zhang W. 1711
Jacobsen J. P. see Andersen S. O. 4287
Jacobson R. R. see Schultz A. G. 7499
Jacquesy J.-C. see Coustard J.-M. 3075
Jacquet J.-P. Bouzard D. Kiechel J.-R. and **Remuzon P.** Synthesis of a new bridged diamine 3,6-diazabicyclo [3.2.0] heptane: applications to the synthesis of quinolone antibacterials 1565
Jagoe C. T. see Kelly T. R. 4263
Jakobsen M. H. Buchardt O. Engdahl T. and **Holm A.** A new facile one-pot preparation of pentafluorophenyl (Pfp) and 3,4-dihydro-4-oxo-1,2,3-benzotriazine-3-yl (Dhbt) esters of Fmoc amino acids 6199
Jakobsen M. H. see Høeg-Jensen T. 6387
Jakobsen M. H. see Høeg-Jensen T. 7617
Jakobsen M. H. see Stærkær G. 5389
Jakupovic J. see Marco J. A. 5193
Jamart-Grégoire B. Brosse N. Ianelli S. Nardelli M. and **Caubère P.** New easy access to cyclopentanoid structures 3069
James K. see Bussolotti D. L. 6503
Jameson D. L. and **Guise L. E.** An improved, two-step synthesis of 2,2':6',2"-terpyridine 1999
Janecki T. and **Bodalski R.** β-Diethoxyphosphorylpropionic acid, a convenient reagent for the synthesis b,g-unsaturated amides 6231
Jang D. O. see Barton D. H. R. 2569
Jang D. O. see Barton D. H. R. 7187
Janowitz A. see Vavrecka M. 5543
Jansen J. F. G. A. see Knol J. 7465
Jansen J. F. G. A. and **Feringa B. L.** Asymmetric 1,4-additions to γ-menthyloxybutenolides-III. Enantioselective synthesis of (-) eudesmin 3239
Jaramillo C. and **Martin-Lomas M.** Approaches to the synthesis of glycosyl phosphatidyl inositols. Enantioselective synthesis of optically active *chiro*- and *myo*-inositols 2501
Jarvest R. L. see Harnden M. R. 3863
Jasys V. J. Kellogg M. S. and **Volkmann R. A.** Synthesis of novel sulfenamide-containing β-lactams 3771
Jaszberenyi J. Cs. see Barton D. H. R. 2569
Jaszberenyi J. Cs. see Barton D. H. R. 2585
Jaszberenyi J. Cs. see Barton D. H. R. 2703
Jaszberenyi J. Cs. see Barton D. H. R. 311
Jaszberenyi J. Cs. see Barton D. H. R. 3309
Jaszberenyi J. Cs. see Barton D. H. R. 3321
Jaszberenyi J. Cs. see Barton D. H. R. 7187
Jauch J. and **Schurig V.** An improved procedure for the preparation of substituted 4-hydroxy-4,5-dihydrofurans 4687
Jeanty G. see Aracil J.-M. 2609
Jeanty G. see Fadli M. 2477
Jeffery T. Palladium-catalysed arylation of allylic alcohols: highly selective synthesis of β-aromatic carbonyl compounds or β-aromatic α,β-unsaturated alcohols 2121
Jefford C. W. Jin S. and **Bernardinelli G.** Reactions of an endoperoxide with chiral ketones. Diastereoselective formation of 1,2,4-trioxanes and 1,3-dioxolanes 7243
Jendralla H. Asymmetric hydrogenation of itaconic acids with rhodium(I)–phenyl-CAPP complex; a correction 3671
Jenn T. see Heissler D. 7587
Jenner G. Catalytic procedure for the synthesis of cycloalkanemethanols from cycloalkenes and aqueous methyl formate 505
Jenner G. see Nahmed E. M. 4917
Jenny T. A. and **Ma L.** Synthetic use of a σ-alkyl-π-allyl iron complex obtained by sterospecific ring opening of α-pinene 6101
Jenny T. F. Previsani N. and **Benner S. A.** Carbocyclic analogs of nucleosides via modified Mitsunobu reactions 7029
Jensen P. R. see Pathirana C. 2323
Jensen P. R. see Pathirana C. 7001
Jeong L. S. see Chu C. K. 3791
Jeong N. Yoo S. Lee S. J. Lee S. H. and **Chung Y. K.** An efficient preparation of 3-azabicyclo [3.3.0]-oct-5-en-7-ones from propargyl alcohol-cobalt complexes via Nicholas reaction with amidic nitrogen nucleophiles followed by Pauson-Khand cyclization 2137
Jerina D. M. see Boyd D. R. 2963
Jeromin G. E. and **Scheidt A.** Aliphatic optically active alcohols by enzyme-aided syntheses 7021
Jetten M. Peters C. A. M. van Nispen J. W. F. M. and **Ottenheijm H. C. J.** A one-pot N-protection of L-arginine 6025
Jeunet A. see Gagnaire G. 2021
Jewett R. see Bank S. 303
Jeyaraman R. see Rajanarayanan A. 3873
Jhingran A. G. see Bray A. M. 6163
Jiang Q. Joshi B. S. and **Pelletier S. W.** The total synthesis of radermachol 5283
Jiang S. and **Turos E.** Lewis acid-promoted addition of allyl(cyclopentadienyl)iron(II)

dicarbonyl to unactivatived ketones 4639
Jiang Y. M. see Khanna R. K. 5449
Jie L. see Van Aerschot A. 1905
Jiménez C. Quiñoá E. and **Crews P.** Novel marine sponge alkaloids—III. β-Carbolinium salts from *Fascaplysinopsis reticulata* 1843
Jiménez J. L. see Avalos M. 2513
Jimeno M. L. see Marco-Contelles J. 6437
Jin S. see Jefford C. W. 7243
Jodai A. see Nishigaichi Y. 2383
John C. R. see Bhamare N. K. 4439
John J. A. see Faller J. W. 1271
John L. see Tinto W. F. 4661
Johnson C. R. Golebiowski A. McGill T. K. and **Steensma D. H.** Enantioselective synthesis of 6-cycloheptene-1,3,5-triol derivatives by enzymatic asymmetrization 2597
Johnson C. R. Golebiowski A. and **Steensma D. H.** Enantioselective synthesis of all 2,4-dideoxyhexose stereoisomers 3931
Johnson D. F. see Rossiter B. E. 3609
Johnson T. O. and **Overman L. E.** Ring-enlarging cyclopentene annulations 7361
Johnstone R. A. W. see Rocha Gonsalves A. M. d'A. 1355
Jois Y. H. R. Berg M. A. G. Merola J. S. and **Gibson H. W.** X-Ray crystal structure and reactions of 2-cyano-1,3-dibenzoyl-2,3-dihydrobenzimidazole, a novel Reissert compound 2997
Jommi G. Orsini F. Resmini M. and **Sisti M.** A stereoconvergent approach to dicyclopenta[*a*,*d*]cyclooctane terpenoids via a very mild Cope reaction 6969
Jona H. see Matsumoto T. 5103
Jones A. H. see Choi S. 5517
Jones D. N. see Alker D. 1667
Jones D. S. see Gustavson L. M. 5485
Jones G. see Abarca B. 4977
Jones G. B. see Corey E. J. 5713
Jones K. see Clark A. J. 2829
Jones K. see López-Tudanca P. L. 2261
Jones K. see Woo K.-C. 6949
Jones M. F. Noble S. A. Robertson C. A. and **Storer R.** Tetrahydrothiophene nucleosides as potential anti-HIV agents 247
Jones N. D. see Kirst H. A. 4839
Jones P. G. see Vogel C. 1409
Jones P. S. see Attwood M. R. 811
Jones R. A. see Gao H. 5477
Jones R. A. see Kung P.-P. 3919
Jones R. V. H. see Lewis D. P. 6797
Jones, Jr. M. see Myers D. R. 2203
Joshi B. S. see Jiang Q. 5283
Josien H. Martin A. and **Chassaing G.** Asymmetric synthesis of L-diphenylalanine and L-9-fluorenylglycine via room temperature alkylations of a sultam-derived glycine imine 6547
Jou G. see Lloyd-Williams P. 4207
Jouin P. see Coste J. 1967
Journet M. see Smadja W. 3683
Jroundi R. see Santamaria J. 4291
Jubault M. see Abouelfida 2225
Jubault M. see Salle M. 2897
Juby C. D. Richardson C. D. and **Brousseau R.** Facile preparation of 3'oligonucleotide-peptide conjugates 879
Julia S. A. see Baudin J. B. 1175
Jumbam D. N. see Fürstner A. 6695
Jund K. C. see Casara P. J. 3823
Jung K.-Y. see Kim S. J. 6073
Jung M. E. Castro C. and **Gardiner J. M.** Rapid synthesis of 2',3'-dideoxycytidine (ddC) from a simple achiral precursor 5717
Jung M. E. and **Clevenger G. L.** Conversion of D-mannose into 1,5-andydro-D-allitol-4,6-acetonide; unusual intramolecular epoxy alcohol opening in base 6089
Jung M. E. and **Hagiwara A.** New alkene-forming reaction: phenanthrenes from 2-(2-formylphenyl)benzaldehyde bis-tosylhydrazone decomposition 3025
Jung M. J. see McDonald I. A. 887
Just G. see Lavallée J.-F. 3469
Justus K. and **Steglich W.** First synthesis of a strained 14-membered biaryl ether lactone by macrolactonization 5781

Kabalka G. W. see Bains S. 5663
Kabalka G. W. see Hondrogiannis G. 2303
Kabalka G. W. see Narayana C. 6855
Kabalka G. W. see Wang Z. 1945
Kabalka G. W. see Wang Z. 4619
Kabalka G. W. see Wang Z. 5677
Kabat M. Kiegiel J. Cohen N. Toth K. Wovkulich P. M. and **Uskokovic M. R.** Control of stereoselectivity in samarium metal induced cyclopropanations. Synthesis of 1,25-dihydroxycholecalciferol 2343
Kabat M. M. and **Wicha J.** Enantioselective synthesis of the methylenecyclopropane derivative related to hypoglycine, starting from malic acid 531
Kabat M. M. and **Wicha J.** The reaction of β-(trimethylsily)alkyl phenyl sulfones with oxiranes. A method for stereocontrolled synthesis of homoallylic alcohols 1073
Kabe Y. see Choi N. 4573
Kabouche Z. Bruneau C. and **Dixneuf P. H.** Enol esters as intermediates for the facile conversion of amino acids into amides and dipeptides 5359
Kadota I. see Yamamoto Y. 7069
Kadota S. Orito T. Kikuchi T. Uwano T. Kimura I. and **Kimura M.** Musclide-A1, -A2, and -B, cardiotonic potentiating principles from musk 1733
Kaestle K. L. Anwer M. K. Audhya T. K. and **Goldstein G.** Cleavage of esters using carbonates and bicarbonates of alkali metals: synthesis of thymopentin 327
Kagan H. B. see Collin J. 629
Kagan H. B. see Lebrun A. 2355
Kagan H. B. see Sasaki M. 2493
Kagan H. B. Tahar M. and **Flaud J.-C.** 2-Hydroxyalkyl diphenylphosphines: biocatalytic resolution and use as ligands for transition-metal catalysts 5959
Kaji S. see Miyashita A. 781
Kajitani M. see Tono M. 4023
Kakeya H. Sakai N. Sugai T. and **Ohta H.** Microbial hydrolysis as a potent method for the preparation of optically active nitriles, amides and carboxylic acids 1343
Kakigi H. see Matsumoto T. 4337
Kakinuma K. Koudate T. Li H.-Y. and **Eguchi T.** Enantiocontrol by intrinsic antiparallel double repulsion on diacetone-D-glucose template. Enantioselective synthesis of alanine and chirally deuterated glycine 5801
Kakisawa H. see Ezaki K. 2793
Kakisawa H. see Ishitsuka M. O. 2917
Kakisawa H. see Ishitsuka M. O. 6595
Kakisawa H. see Kusumi T. 2923
Kakisawa H. see Kusumi T. 2939
Kakiuchi K. see Tobe Y. 359
Kakkar V. V. see Cheng L. 7333
Kako M. see Akasaka T. 6605
Kako T. see Ito Y. 4007
Kakuno T. Yoshikawa K. and **Arihara S.** Ilexosides A, B, C and D, anti-allergic 18,19-*seco*-

ursane glycosides from fruit of *Ilex crenata* 3535
Kaldor S. W. and **Hammond M.** A mild, osmium tetraoxide-catalyzed method for the oxidation of sulfides to sulfones 5043
Kalesse M. see Schinzer D. 4691
Kaller B. F. see Ward D. E. 843
Kaloustian M. K. see Saba S. 5031
Kalugin V. E. see Niyazymbetov M. E. 1099
Kamal A. Rao M. V. and **Meshram H. M.** Efficient enzymatic hydrazone hydrolysis by baker's yeast 2657
Kamata M. Kato Y. and **Hasegawa E.** Photoinduced single electron transfer reactions of 1,3-dithianes and 1,3-dithiolanes sensitized by triphenylpyrylium salt in the presence of molecular oxygen 4349
Kamata M. Otogawa H. and **Hasegawa E.** Deprotection of 1,3-dithianes by antimony pentachloride via single electron transfer processes 7421
Kambe N. see Fujiwara S. 3503
Kambe N. see Nakahira H. 229
Kambouris P. Plisnier M. Flammang R. Terlouw J. K. and **Wentrup C.** Thiofulminic acid (H-C$\overset{\cdot}{\text{N}}$→S) and nitrile sulfides (R-C$\overset{\cdot}{\text{N}}$→S) in the gas phase 1487
Kameda K. see Yoshida K. 5575
Kamei H. see Otera J. 2405
Kamenecka T. M. see Boeckman, Jr. R. K. 2581
Kameyama Y. see Tanaka H. 7445
Kammermeier B. O. T. Klumpp G. W. Kolthof K. and **Vos M.** Addition of secondary alkyllithiums to ethylene; influence of intramolecular Lewis base and of the degree of aggregation 3111
Kamochi Y. and **Kudo T.** Reduction using samarium diiodide-base system 3511
Kan Y. see Nishizawa M. 5551
Kanai M. see Kim K.-W. 6715
Kanai M. see Tomioka K. 2395
Kanai M. see Uneyama K. 7425
Kanamaru N. see Hayakawa Y. 213
Kanamori F. see Takeda T. 5567
Kanamori F. see Takeda T. 6563
Kanavarioti A. Lu J. Rosenbach M. T. and **Hurley T. B.** Unexpectedly facile synthesis of symmetrical P^1,P^2-dinucleoside-5'pyrophosphates 6065
Kanazawa A. M. see Hartmann B. 5077
Kanazawa A. M. see Hartmann B. 767
Kandeel E. M. see Elmorsy S. S. 1825
Kane R. R. see Walkup R. D. 3937
Kanemasa S. Kobayashi S. Nishiuchi M. Yamamoto H. and **Wada E.** Generation of nitrile oxides through *O*-metalation of hydroximoyl chlorides. Chelation-controlled *syn*-selective cycloaddition of nitrile oxides to α-substituted allyl alcohols 6367
Kanematsu K. Soejima S. and **Wang G.** Formal total synthesis of xestoquinone via furan ring transfer reaction strategy 4761
Kanematsu K. Sugimoto N. Kawaoka M. Yeo S. and **Shiro M.** Competitive intramolecular [4+2] cycloaddition and [2+2] cycloaddition of sulfonylallene 1351
Kaneta N. see Mori M. 6139
Kang H.-Y. Cho Y. S. Koh H. Y. and **Chang M. H.** Intramolecular [3+2] nitrone–alkyne cycloaddition 2779
Kang K.-T. Kim S. S. and **Lee J. C.** Synthesis of functionalized allylsilanes via palladium-catalyzed cross-coupling of 2-stannyl-3-silylpropene with organic halides 4341
Kang M. S. see Liu P. S. 5853
Kang M. S. see Liu P. S. 719
Kang S. H. Hwang T. S. Kim W. J. and **Lim J. K.** A stereoselective synthetic route to *cis*-2,5-disubstituted tetrahydrofurans 4015
Kang S.-K. Kim Y.-S. Lim J.-S. Kim K.-S. and **Kim S.-G.** Synthesis of chiral epoxy alcohols: synthesis of (+)-disparlure 363
Kang S.-K. and **Cho H.-S.** Synthesis of optically active O-protected (*S*)- and (*R*)-3-hydroxy-aldehydes 367
Kang T. W. see Baldwin J. E. 7093
Kano S. Yokomatsu T. and **Shibuya S.** Stereocontrolled convergent synthesis of hydroxyethylene depeptide isosteres by the reaction of - amino aldehyde with alkoxytitanium homoenolates 233
Kantam M. L. see Markó I. E. 2255
Kapil R. S. see Singh O. V. 5619
Kapoor R. P. see Singh O. V. 5619
Kaptein B. see Roos E. C. 6633
Karanewsky D. S. Synthetic transformations of the mevinic acid nucleus: preparation of a monocyclic analogue of compactin 3911
Karaulov A. I. see Bryce m. R. 6029
Karim S. Parmee E. R. and **Thomas E. J.** Milbemycin synthesis: synthesis of 6β-hydroxy-3,4-dihydromilbemycin E 2269
Karlsson U. see Bäckvall J.-E. 5607
Karra S. R. see Mehta G. 3215
Kasar R. A. Khan R. A. Deshpande V. H. and **Ayyangar N. R.** Synthesis of (±)di-*O*-methyl-12-oxocurvularin 1599
Kasatkin A. N. Kulak A. N. Tolstikov G. A. and **Shitikova O. V.** Lithium iodide promoted rearrangement of double activated alkenyl-cyclopropanes to cyclopentenes or 1,3-dienes 4591
Kashimura S. see Shono T. 051
Kashiwagi T. see Okamura M. 1475
Kass S. R. see Rabasco J. J. 4077
Kassir J. M. see Padwa A. 5923
Kastler A. see Franck-Neumann M. 7051
Katagiri T. see Yoda H. 6771
Kataoka O. see Mukai C. 7553
Kataoka T. see Shimizu H. 4359
Kataoka T. see Shimizu H. 5571
Kataoka T. Yoshimatsu M. Shimizu H. and **Hori M.** *Endo* selective cyclizations of selenonium ion intermediate: efficient formation of 1-halo-3-seleno-cyclohexanes 105
Kato K. see Lipshutz B. H. 5647
Kato K. see Nishiyama S. 2141
Kato K. see Watanabe T. 2399
Kato M. see Kido F. 6159
Kato M. see Segi M. 7427
Kato M. Watanabe M. Awen B. Z. and **Vogler B.** Regio and diastereoselective alkylation of (1*R*,5*S*)-4-ethyl-6,6-dimethyl-3-(phenylsulfonyl)bicyclo[3.3.1]he pt-3-en-2-one 7439
Kato M. Watanabe M. and **Awen B. Z.** A highly stereocontrolled synthesis of (−)-kanshone A 7443
Kato R. see Tsukamoto M. 7083
Kato Y. see Kamata M. 4349
Kato Y. see Shin-ya K. 943
Kato Y. see Ueoka R. 6597
Katritzky A. R. Long Q.-H. and **Lue P.** The chemistry of N-substituted benzotriazoles: a novel route to dienamines 3597
Katritzky A. R. Shobana N. and **Harris P. A.** Water-tolerant unstabilized carbanion

equivalents: bismuth(III) chloride-aluminum promoted alylations of immonium cations to amines in aqueous media 4247
Katsuhira T. see Harada T. 1573
Katsuki J. see Inanaga J. 4921
Katsuki J. and **Inanaga J.** One-pot converion of *O*-acetylsugar lactones into 2,3-dideoxysugar derivatives via platinum-catalyzed hydrogenolysis 4963
Katsuki M. see Matsumoto T. 5103
Katsuki M. see Matsumoto T. 6735
Katsuki T. see Irie R. 1055
Katsuki T. see Irie R. 6891
Katsuki T. see Ishikawa A. 3547
Katsuki T. see Okamura H. 5137
Katsuki T. see Okamura H. 5141
Katz T. J. see Liu L. 6831
Katz T. J. and **Yang G. X.-Q.** Reactions of enynes with adsorbed metal-carbenes 5895
Kaur N. P. see Kessar S. V. 3221
Kaura A. C. see Bateson J. H. 2065
Kaura A. C. see Berry P. D. 2683
Kawada M. see Mandai T. 3397
Kawada M. see Mandai T. 3399
Kawada M. see Mandai T. 7683
Kawada M. see Mandai T. 7687
Kawada Y. see Kido F. 6159
Kawagishi H. Ando M. Sakamoto H. Yoshida S. Ojima F. Ishiguro Y. Ukai N. and **Furukawa S.** Hericenones C, D and E, stimulators of nerve growth factor (NGF)-synthesis, from the mushroom *Hericium erinaceum* 4561
Kawaguchi A. T. see DeCamp A. E. 1867
Kawai K. see Matsunaga K. 6883
Kawai Y. see Nakamura K. 2927
Kawai Y. see Akaba R. 109
Kawai Y. see Nakamura K. 7075
Kawakishi S. see Yoshida K. 5575
Kawamura M. see Hatekeyama S. 4509
Kawanishi E. see Takeda K. 4925
Kawanishi M. see Hashimoto H. 7087
Kawano C. see Yasui S. 5601
Kawano H. see Shao L. 7699
Kawaoka M. see Kanematsu K. 1351
Kawase T. Fujino S. and **Oda M.** Synthesis of 2-cyclopentadienylidene-2H-thiapyran by novel reductive rearrangement of a 6-thienylfulvene 3499
Kawashima H. see Yokoyama Y. 1479
Kawashima T. see Miyashita A. 781
Kaye P. T. see Bode M. L. 5611
Kazmierski W. M. and **Hruby V. J.** Asymmetric synthesis of topographically constrained amino acids: synthesis of the optically pure isomers of α,β-dimethyl-phenylalanine and α, β-dimethyl-1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid 5769
Keaffaber J. J. see Dolbier, Jr. W. R. 3933
Kearley M. L. and **Lahti P. M.** Epimerization of 2,4-dibenzilidene-6-methylbicyclo(3.1.0)hexan-3-one 5869
Keay B. A. see Cristofoli W. A. 5881
Keay B. A. see Rogers C. 6477
Kee I. S. see Kim S. 3099
Keenan T. P. see Smith, III A. B. 6847
Keiner P. see Kusche A. 467
Kellner D. see Clive D. L. J. 7159
Kellogg M. S. see Jasys V. J. 3771
Kellogg R. M. see van der Werf A. 3727
Kelly J. W. see Diaz H. 5725
Kelly M. T. see Needham J. 315
Kelly T. R. Jagoe C. T. and **Gu Z.** Synthesis of micrococcinic acid 4263
Kemp D. S. and **Buckler D. R.** Highly enantioselective amide ligation by prior thiol capture 3013
Kemp D. S. and **Buckler D. R.** New templates for prior thiol capture from xanthene, dibenzo[*c*,*h*]xanthen-7-one and 2-methylenedihydrobenzofuran 3009
Kemp D. S. and **Carey R. I.** Resolution of the histidine problem for thiol capture-synthesis of a 39-peptide 2845
Kenda B. see Krief A. 2509
Kende A. S. and **Fujii Y.** Acid-induced anomerizations of 1-deoxy-1-C-alkenylglycopyranose derivatives 2199
Kende A. S. and **Mendoza J. S.** Controlled reduction of nitroalkanes to alkyl hydroxylamines or amines by samarium diiodide 1699
Kennard C. H. L. see Escher A. 3583
Kennard L. see Swarbrick T. M. 2549
Kennewell P. D. see Luheshi A.-B. N. 4056
Kenny M. T. see Casara P. J. 3823
Kerdesky F. A. J. and **Basha A.** A facile synthesis of aryl trifluoromethyl ketones 2003
Kerremans L. see Herdewijn P. 4397
Kervagoret J. see Pancrazi A. 4303
Kervagoret J. see Pancrazi A. 4483
Kessar S. V. Vohra R. and **Kaur N. P.** Lewis acid complexed heteroatom carbanions; a convenient route to α-hydroxybenzyltetrahydroisoquinoline alkaloids 3221
Kestemont J. P. see Art J. F. 1425
Khan M. A. see Iqbal J. 5179
Khan R. A. see Kasar R. A. 1599
Khanna R. K. Jiang Y. M. and **Singh P. R.** Mechanisms in the reactions of arenediazonium cations with 2-nitropropanide anion 5449
Khanna R. K. Pauling T. M. and **Vajpayee D.** Selectivities in biomimetic atom abstraction reactions 3759
Khattak J. see Dietze P. E. 307
Khoroshutin A. V. see Bobylyova A. A. 6429
Khoung-Huu Q. see Pancrazi A. 4303
Khuong-Huu F. see Bénfcéchie M. 7535
Khuong-Huu Q. see Pancrazi A. 4483
Kibayashi C. see Aoyagi S. 4325
Kibayashi C. see Ina H. 4147
Kido F. Kawada Y. Kato M. and **Yoshikoshi A.** An efficient and convenient synthesis of bridged δ-lactones 6159
Kido M. see Sakai Y. 4363
Kiechel J.-R. see Jacquet J.-P. 1565
Kiegiel J. see Kabat M. 2343
Kiegiel J. Wovkulich P. M. and **Uskokovic M. R.** Chemical conversion of vitamin D_3 to its 1,25-dihydroxy metabolite 6057
Kielty J. M. see Donnelly D. M. X. 3835
Kienzle F. and **Stadlwieser J.** An unexpected efficient dimerisation of 3-cyclopropylideneprop-1-enyl ethyl ether 551
Kigoshi H. Imamura Y. Yoshikawa K. Niwa H. and **Yamada K.** Factors that cause contrasteric alkylation of a cyclopentane-1,2-dicarboxylic acid monoester 4541
Kigoshi H. Niwa H. Yamada K. Stout T. J. and **Clardy J.** The three-dimensional structure of neohalicholactone, an unusual fatty acid metabolite from the marine sponge *Halichondria okadai* Kadota 2427
Kigoshi H. see Corey E. J. 5025
Kihlberg J. see Elofsson M. 7613
Kikuchi K. see Kita Y. 2035
Kikuchi O. see Takahashi O. 4933
Kikuchi T. see Kadota S. 1733

Kikuchi Y. Ishibashi M. Sasaki T. and Kobayashi J. Iejimalides C and D, new antineoplastic 24-membered macrolide sulfates from the Okinawan marine tunicate *Eudistoma* cf. *rigida* 797
Kim B. M. see Park C. Y. 1003
Kim C. J. see Kim S. S. 4725
Kim D. Kim H. S. and **Yoo J. Y.** A total synthesis of spirocyclic alkaloids via an intramolecular S_N2' lactam enolate alkylation 1577
Kim D. and **Lee Y. K.** Stereoselective synthesis of a steroidal *trans*-hydrindanone synthon from (*R*)-limonene 6885
Kim H. J. see Kim H. R. 4259
Kim H. O. see Chu C. K. 3791
Kim H. R. Kim H. J. Duffy J. L. Olmstead M. M. Ruhlandt-Senge K. and **Kurth M. J.** Double diastereoselectivity in the intramolecular nitrile-oxide-olefin cycloaddition (INOC) reaction 4259
Kim H. S. see Kim D. 1577
Kim J. see Rychnovsky S. D. 7219
Kim J. see Rychnovsky S. D. 7223
Kim J. M. see Cha J. S. 6903
Kim J.-H. see Moore J. A. 3449
Kim K. D. see Magriotis P. A. 6085
Kim K. S. see Roh K. R. 793
Kim K.-S. see Kang S.-K. 363
Kim K.-W. Sugawara F. Uzawa J. Yoshida S. Murofushi N. Takahashi N. Curtis R. W. and **Kanai M.** Structure of malformin B, phytotoxic metabolites produced by *Aspergillus niger* 6715
Kim S. Kim Y. G. and **Park J. H.** A simple procedure for α-alkoxyalkylation of α,β-enones via pyridiniosilylation 2043
Kim S. Park Y. H. and **Kee I. S.** Mild deprotection of methoxymethyl, methylthiomethyl, methoxy-ethoxymethyl, and β-(trimethylsilyl)ethoxymethyl esters with magnesium bromide in ether 3099
Kim S. Uh K. H. Lee S. and **Park J. H.** Palladium-catalyzed ring expansion of vinyl oxaspirohexanes 3395
Kim S. and **Kim Y. G.** Arsoniosilylation of α,β-unsaturated carbonyl compounds. Direct synthesis of furans from α,β-enals 2913
Kim S. and **Lee S.** Free radical mediated ring expansion of vinyl epoxides 6575
Kim S. J. Harris C. M. Jung K.-Y. Koreeda M. and **Harris T. M.** Non-biomimetic route to deoxyadenosine adducts of carcinogenic polycyclic aromatic hydrocarbons 6073
Kim S. K. see Pak C. S. 6011
Kim S. S. Kim C. J. Youn S. J. Ra H. S. and **Lee J. C.** The absence of temperature effect in the competitive beta-cleavages of benzyl methyl substituted-benzyl carbinyloxy radicals 4725
Kim S. S. see Kang K.-T. 4341
Kim S.-G. see Kang S.-K. 363
Kim U. T. Bhatia S. K. and **Hajdu J.** Stereospecific synthesis of ether phospholipids. Preparation of 1-octadecyl-2-alkylaminodeoxyglycerophospho cholines 6521
Kim W. J. see Kang S. H. 4015
Kim Y. G. see Kim S. 2043
Kim Y. G. see Kim S. 2913
Kim Y. H. see Lee C. H. 2401
Kim Y. H. see Roh K. R. 793
Kim Y. H. and **Lim B. U.** A novel tautomerism in alkyl dihydropyrimidines: observation of tautomerism by H–D exchange of 2- and/or 4-methyl protons of dihydropyrimidines in CD_3OD 2057
Kim Y.-K. see Hawkins J. M. 1635
Kim Y.-S. see Kang S.-K. 363
Kimura I. see Kadota S. 1733
Kimura K. see Matsunaga H. 7715
Kimura M. Fugami K. Tanaka S. and **Tamaru Y.** Silver(I) catalyzed amino cyclization of *O*-(2,3-butadienyl) carbamates: an efficient and stereoselective synthesis of 4-vinyl-2-oxazolidinones 6359
Kimura M. see Kadota S. 1733
Kimura T. see Ando T. 6379
Kimura T. see Nakata M. 6015
King F. D. see Allcock S. J. 125
King F. D. see Orlek B. S. 1245
King F. D. and **Martin R. T.** The synthesis of 2-morpholine carboxylic acid derivatives and their elaboration to 1-aza-4-oxabicyclo[3.3.1]nonan-6-one 2281
King J. D. and **Quayle P.** An approach to oxasteroids 7759
King J. L. see Paquette L. A. 5259
King J. L. see Paquette L. A. 6529
King S. B. see Yoon H. 7199
Kinghorn A. D. see Nasution M. P. 5915
Kingma A. J. see Oppolzer W. 4893
Kinjo J. see Cui B. 6135
Kinsman R. G. see Boumrah D. 7735
Kinter C. M. see Posner G. H. 5295
Kirisawa M. see Miyake M. 7295
Kirsch R. S. see Crandall J. K. 5441
Kirst H. A. Michel K. H. Martin J. W. Creemer L. C. Chio E. H. Yao R. C. Nakatsukasa W. M. Boeck L. D. Occolowitz J. L. Paschal J. W. Deeter J. B. Jones N. D. and **Thompson G. D.** A83543A–D, unique fermentation-derived tetracyclic macrolides 4839
Kise N. see Shono T. 525
Kise N. see Shono T. 6567
Kishi E. see Itokawa 1803
Kita F. see Adam W. 2211
Kita Y. Akai S. Fujioka H. Tamura Y. Tone H. and **Taniguchi Y.** Total synthesis of a new inhibitor of superoxide anion generation, OPC-15161 6019
Kita Y. see Fujioka H. 5367
Kita Y. Shibata N. Yoshida N. and **Tohjo T.** A novel substitution reaction of 4-sulfinylazetidin-2-one with silylated heteronucleophiles: an efficient synthesis of 4-heterofunction substituted 3-(1-hydroxy)ethylazetidin-2-ones 2375
Kita Y. Tohma H. Inagaki M. Hatanaka K. Kikuchi K. and **Yakura T.** Hypervalent iodine oxidation of *O*-silylated phenol derivatives to azacarbocyclic spirodienones; synthetic approach to the anticancer marine alkaloid, discorhabdin C 2035
Kita Y. Tohma H. Inagaki M. Hatanaka K. and **Yakura T.** A novel oxidative azidation of aromatic compounds with hypervalent iodine reagent, phenyliodine(III) bis(trifluoracetate) (PIFA) and trimethylsilyl azide 4321
Kitagawa K. see Uneyama K. 3385
Kitagawa K. see Uneyama K. 375
Kitagawa M. Hasegawa S. Saito S. Shimada N. and **Takita T.** Synthesis and antiviral activity of oxetanocin derivatives 3531
Kitagawa S. see Ochiai M. 4945
Kitagawa T. Nishimura M. Takeuchi K. and **Okamoto K.** Bis-(2,6-difluorophenyl)benzoylmethyl cation: α-ketocarbenium ion as a single-electron acceptor 3187
Kitamura M. see Yamana K. 6347
Kitamura M. Tokunaga M. Ohkuma T. and **Noyori R.** Convenient preparation of

BINAP-ruthenium(II) complexes catalyzing asymmetric hydrogenation of functionalized ketones 4163
Kitamura S. see Nakata M. 5363
Kitane S. see Eddaif A. 3709
Kitayama T. see Nakamura K. 4941
Kiyonaga H. see Harano K. 7557
Kjær E. B. see Anthoni U. 2825
Klabunde K.-U. see Alexander J. 735
Klempier N. de Raadt A. Faber K. and **Griengl H.** Selective transformation of nitriles into amides and carboxylic acids by an immobilized nitrilase 341
Klimova T. E. see Nikishin G. I. 1077
Klock T. see Ho M. 1283
Klumpp G. W. see Kammermeier B. O. T. 3111
Klumpp G. W. see Vlaar C. P. 2951
Klunder A. J. H. see Dols P. P. M. A. 3739
Klunder A. J. H. see Lange J. H. M. 3127
Klunder A. J. H. Zwanenburg B. and **Liu Z. Y.** A stereospecific formal synthesis of clavulones from tricyclo[5.2.1.$0^{2,6}$]decadienone epoxides 3131
Knapρ S. and **Shieh W.-C.** Nucleoside synthesis from thioglycosides 3627
Knight J. G. and **Ley S. V.** Synthesis of the alkaloids (–)-heliotridane and (–)-isoretronecanol via π-allyltricarbonyliron lactam complexes 7119
Knochel P. see Rozema M. J. 1855
Knochel P. see Retherford C. 441
Knol J. Jansen J. F. G. A. van Bolhuis F. and **Feringa B. L.** Asymmetric Diels–Alder reactions and Michael type additions with 6(R)-3'(R)-pantolactone-substituted-2H-pyran-3(6H)-one 7465
Knölker H.-J. Boese R. and **Hartmann K.** Transition metal-diene complexes in organic synthesis-VII. Regioselectivity control in iron-mediated diastereoselective spiroannelations of arylamines: cyclization to 1-aza- versus 3-aza-spiro[5.5]undecanes 1953
Knorr R. see Bannwarth W. 1157
Knowles J. R. see Pansegrau P. D. 2589
Kobayashi H. see Miyoshi M. 6007
Kobayashi J. Cheng J. Yamamura S. and **Ishibashi M.** Revised structures of prianosins C and D, antineoplastic alkaloids from the Okinawan marine sponge *Prianos melanos* 1227
Kobayashi J. see Kikuchi Y. 797
Kobayashi J. see Murata O. 3539
Kobayashi J.-I. see Ishii H. 6907
Kobayashi K. see Mazaki Y. 4367
Kobayashi K. see Motomura T. 4757
Kobayashi K. see Shimizu H. 4359
Kobayashi K. see Suginome H. 5115
Kobayashi M. see Uneyama K. 5981
Kobayashi S. see Kanemasa S. 6367
Kobayashi S. see Koide K. 7065
Kobayashi S. see Nakada M. 4929
Kobayashi T. see Masuda R. 1195
Kobayashi Y. see Ito T. 371
Kobayashi Y. see Yamakawa I. 2045
Kobiro K. see Tobe Y. 359
Kocienski P. see Birkinshaw S. 6961
Kodadek T. see O'Malley S. 2445
Kodama Y. see Iimori T. 7273
Koehn F. E. Gunasekera S. P. Niel D. N. and **Cross S. S.** Halitunal, an unusual diterpene aldehyde from the marine alga *Halimeda tuna* 169
Koeller K. J. and **Spilling C. D.** The preparation and reactions of chiral phosphorous acid diamides 6297
Koenig M. see Etemad-Moghadam G. 3687
Koenig M. see Etemad-Moghadam G. 5965
Koerber K. Gore J. and **Vatele J.-M.** Palladium-catalyzed hydrostannation of alkoxyallenes. A new access to functionalized allylstannanes 1187
Koga K. see Miyake M. 7295
Koga K. see Tomioka K. 2395
Koga K. see Tomioka K. 3095
Kogler H. see Chatterjee S. 141
Koh H. Y. see Kang H.-Y. 2779
Kohara N. see Hanzawa Y. 4143
Kohlstruk S. see Thiemann T. 3483
Kohno M. see Yokoyama Y. 1479
Kohra S. see Tominaga Y. 5987
Koide K. Ohno M. and **Kobayashi S.** A new glycosylation reaction based on a 'remote activation concept': glycosyl 2-pyridinecarboxylate as a novel glycosyl donor 7065
Koide T. see Otaka A. 1223
Koide Y. Sakamoto A. and **Imamoto T.** Stereospecific reduction of diastereomerically pure menthyl phosphinates: a new route to optically active phosphine oxides 3375
Kojima A. see Tanabe Y. 379
Kolb H. C. and **Ley S. V.** Chemistry of insect antifeedants from *Azadirachta indica*–X. Synthesis of a highly functionalised decalin fragment of azadirachtin 6187
Kollát E. see Hollósi M. 1531
Kollat E. see Urge L. 3445
Kolthof K. see Kammermeier B. O. T. 3111
Komatsu H. see Tanaka T. 3175
Komatsu K. Nishinaga T. Aonuma S. Hirosawa C. Takeuchi K. Lindner H. J. and **Richter J.** Synthesis, structure, and reduction of the cyclooctatetraene tetraannelated with bicyclo[2.2.2]octene frameworks 6767
Komatsu M. see Ohno M. 5093
Komatsu M. see Ohno M. 5813
Komiyama K. see Smith, III A. B. 1627
Komuro Y. see Tanabe Y. 379
Kondo K. see Takahashi M. 6919
Kondo S. see Nakamura K. 7075
Kondo S. see Natsume M. 3087
Kondo T. see Yoshida K. 5575
Kondo T. see Yoshida K. 5579
Kondo T. Suzuki K. Yoshida K. Oki K. Ueda M. Isobe M. and **Goto T.** Structure of cyanodelphin, a tetra-*p*-hydroxybenzoated anthocyanin from blue flower of *Delphinium hybridum* 6375
Kondo Y. see Trost B. M. 1613
Kong F. and **Faulkner D. J.** Pictamine, a quinolizidine alkaloid from the tunicate *Clavelina picta* 3667
Königsberger K. Alphand V. Furstoss R. and **Griengl H.** Asymmetric microbiological Baeyer-Villiger reaction of a bridged bicyclic ketone: divergent behaviour of its enantiomers 499
Konishi A. see Suginome H. 5115
Konishi M. see Miyoshi M. 6007
Kononenko G. P. Bekker A. R. Leonov A. N. and **Soboleva N. A.** Gramilaurone, a novel natural sesquiterpenoid from *Fusarium graminearum Schw.* 1893
Konopelski J. P. Conjugate addition reactions of enantiomerically pure acylketene acetals and ethyllithium. A pronounced salt effect 465
Konopelski J. P. see Eid, Jr. C. N. 461
Konosu T. Tajima Y. Miyaoka T. and **Oida S.** Concise synthesis of optically active oxirane precursors for the

preparation of triazole antifungals using the Friedel-Crafts reaction of (*S*)-2-tosyloxypropionyl chloride 7545
Konyushkin L. D. see Niyazymbetov M. E. 1099
Koot W.-J. van Ginkel R. Kranenburg M. Hiemstra H. Louwrier S. Moolenaar M. J. and **Speckamp W. N.** Synthesis of statine from (*S*)-malic acid; stereocontrol via radical cyclization 401
Korecz L. see Móger G. 5167
Koreeda M. see Kim S. J. 6073
Korkodilos D. see Bloodworth A. J. 6953
Koroniak H. see Dolbier, Jr. W. R. 3933
Kort M. E. see Burke S. D. 855
Kortus K. see Müller H.-G. 2009
Kosaka A. see Tanaka H. 7445
Kosemura S. Matsunaga K. Yamamura S. Kubota M. and **Ohba S.** The structures of citreohybridone A and B, novel sesterterpenoid-type metabolites of a hybrid strain KO 0031 derived from *Penicillium citreoviride* B.IFO 6200 and 4692 3543
Kosemura S. see Maki S. 4973
Koshimizu K. see Ando T. 5107
Koshino H. Osada H. Yano T. Uzawa J. and **Isono K.** The structure of enopeptins A and B, novel depsipeptide antibiotics 7707
Koskinen A. M. P. and **Chen J.** Enantiospecific synthesis of polyhydroxy amino acids. Synthesis of the C_{36}-C_{38} portion of calyculins 6977
Kotani K. see Kubo Y. 7419
Kotani Y. see Harada T. 1573
Kotnis A. S. A convenient, practical synthesis of substituted resorcinols: synthesis of DB-2073 and olivetol 3441
Kotsuki H. Kusumi T. Inoue M. Ushio Y. and **Ochi M.** Synthesis of solenopsin B via stereoselective reduction of bicyclic N,O-ketals 4159
Kotsuki H. Matsumoto K. and **Nishizawa H.** High pressure-promoted trasnformation of alcohols into the corresponding phenylsulfides with Bu_3P-PhSSPh 4155
Kotsuki H. Miyazaki A. and **Ochi M.** A new enantioselective synthesis of (4*S*,5*S*)-5-(*N*-Boc)-amino-6-cyclohexyl-4-hydroxy-hexanoic acid lactone, a hydroxyethylene dipeptide isostere precursor 4503
Koudate T. see Kakinuma K. 5801
Koutsogianni S. see Barlos K. 471
Kovalev I. P. see Nikishin G. I. 1077
Kovtyukh I. P. see Pazenok S. V. 4595
Koyama T. see Ohnuma S. 241
Koyano K. see Zhang X. 7283
Kozikowski A. P. and **Ma D.** Palladium catalyzed synthesis of annelated indoles 3317
Kozlowski J. F. see Rieser M. J. 1137
Krach T. see Wong C.-H. 4867
Krakowiak K. E. Huszthy P. Bradshaw J. S. and **Izatt R. M.** A new method to extend dimercaptan or diamine chains with aminopropyl units using 3-bromo-N-tritylpropanamine 21
Kranenburg M. see Koot W.-J. 401
Kraus G. A. and **Andersh B.** A versatile synthesis of functionalized thiols 2189
Kraus G. A. and **Chen L.** Intramolecular photocyclizations of amino ketones to form fused and bridged bicyclic amines 7151
Kraus G. A. and **Wu Y.** The synthesis of angularly fused aromatic ring systems. The synthesis of 3-deoxyrabelomycin 3803
Krause N. and **Handke G.** 1,6-Reduction of 2-en-4-ynoates using lithium di-s-butylcyanocuprate 7229
Krause N. and **Handke G.** Enantioseparation of allenes by liquid chromatography 7225
Krauss S. see Shao J. 345
Kravitz J. I. Margaretha P. and **Agosta W. C.** Novel photochemical reaction of 2-(2-alkynyl)acetophenones initiated by type II abstraction 31
Krawczyk S. H. and **Townsend L. B.** Synthesis of a pyrido [1,2-*a*]purine nucleoside by a novel ring cleavage-annulation reaction of 3-β-D-ribofuranosylimidazo[4,5-*d*]-*v*-triazin-4-one 5693
Kretzschmann H. and **Meier H.** A new synthesis of soluble poly(1,4-phenylenevinylene)s and poly(2,5-pyrimidinylenevinylene)s 5059
Krief A. Badaoui E. Dumont W. Hevesi L. Hermans B. and **Dieden R.** Stereochemical outcome of reactions involving 1,1-bis(seleno) 4-*tert*-butyl cyclohexanes 3231
Krief A. Kenda B. and **Barbeaux P.** Original reactions of α,α-dithio aryl alkanes with butyllithiums 2509
Krief A. and **Barbeaux P.** Regioselective syntheses of polycyclic compounds by carbanion-mediated polycyclisation of olefins 417
Krieger C. see Asami M. 2117
Krieger C. see Staab H. A. 2215
Krishna M. V. see Back T. G. 4817
Krishnan B. see Golik J. 1851
Krishnan B. see Mansuri M. M. 1287
Kriukov V. see Zavgorodny S. 7593
Krogh-Jespersen K. see Moss R. A. 1925
Krotz L. see Pasquato L. 2177
Kruse L. I. see Dolle R. E. 4587
Kubanek J. M. see Davis J. M. 2205
Kubo Y. Hamaguchi S. Kotani K. and **Yoshida K.** New chromoionophores based on indoaniline dyes containing calix[4]arene 7419
Kubota M. see Harada N. 6757
Kubota M. see Kosemura S. 3543
Kubota Y. see Tanabe Y. 383
Kudo K. Saigo K. Hashimoto Y. HouchigaiH. and **Hasegawa** A highly regioselective reaction of allylic acetates with silylated carbon nucleophiles directed by a sulfenyl group 4311
Kudo M. see Mori A. 4333
Kudo T. see Kamochi Y. 3511
Kühner S. see Effenberger F. 2605
Kula M.-R. see Beisswenger R. 3159
Kulagowski J. J. see Moody C. J. 6947
Kulak A. N. see Kasatkin A. N. 4591
Kulawiec R. J. see Trost B. M. 3039
Kulkarni D. G. see Sonawane H. R. 1107
Kumagai T. Saito S. and **Ehara T.** Photochemical reaction of 2-azabicyclo[3.1.0]hex-3-ene: the formation of 1-azahexatrienes and the cyclization to 1,2-dihydropyridine 6895
Kumar A. Ner D. H. and **Dike S. Y.** A new chemoenzymatic enantioselective synthesis of *R*-(-)-tomoxetine, (*R*)- and (*S*)-fluoxetine 1901
Kumar A. see Davis F. A. 7671
Kumar A. see Davis F. A. 867
Kumar M. U. see Newcomb M. 45
Kumar N. see Black D. St. C. 1587
Kumar P. Bose N. K. and **Gupta K. C.** A versatile solid phase method for the synthesis of

oligonucleotide-3'-phosphates 967
Kumaravel G. see Petter R. C. 449
Kümmell A. und **Seltz G.** Nucleophile Singulett-Carbene in der inversen [4+1]-Cycloaddition: eine neue Isopyrazol-Synthese 2743
Kumobayashi H. see Murahashi S.-I. 2145
Kumobayashi H. see Murahashi S.-I. 5991
Kumobayashi H. see Zhang X. 7283
Kunesch N. see Dalkafouki A. 5325
Kung P.-P. and **Jones R. A.** One-flask syntheses of 6-thioguanosine and 2'-deoxy-6-thioguanosine 3919
Kunieda T. see Ishibuchi S. 3523
Kunieda T. see Matsunaga H. 7715
Kunieda T. see Yamaguchi T. 1729
Kunimoto K. see Ito Y. 4007
Kunishima M. see Ochiai M. 4753
Künzer H. Sauer G. and **Wiechert R.** Stereocontrolled derivatization of 3-methoxyestra-1,3,5(10),n-tetraenes via Lewis acid promoted Prins reactions, (n = 7; 8(9)) 743
Künzer H. Sauer G. and **Wiechert R.** A [4+1] cyclopentannulation route to ring A aromatic, C(1)–C(11) methano-bridged steroids 3673
Künzer H. Sauer G. and **Wiechert R.** A-Ring aromatic 9,10-secosteroids by radical-induced fragmentation of 3-oxo-1,4-diene derivatives 7247
Künzer H. Stahnke M. Sauer G. and **Wiechert R.** Reductive desulfonylation of phenyl sulfones by samarium(II) iodide-hexamethylphosphoric triamide 1949
Kuo G.-H. see Wasserman H. H. 7131
Kuo M.-Y. see Larock R. C. 569
Kurahayashi M. see Okada Y. 2367
Kurella M. G. see Veretenov A. L. 2109
Kurihara T. see Harusawa S. 1203
Kuriyama T. see Kusumoto T. 939
Kuroboshi M. see Ishihara T. 1069
Kuroboshi M. and **Hiyama T.** Halofluorination of alkenes using tetrabutylammonium dihydrogentri-fluoride 1215
Kuroda C. see Masuda R. 1195
Kuroda S. see Okamura H. 5137
Kuroda S. see Okamura H. 5141
Kuroda S. Yamazaki K. Maeda S. Sakaguchi T. Iwaki H. Yamada M. Shimao I. and **Yasunami M.** Azuleno[2,1-*b*]-4,9-methano[11]annulenium perchlorate: a peripheral 18-pi electron diatropic system 655
Kuroda T. see Takahashi M. 6919
Kuroda T. and **Suzuki F.** Synthesis of 1*H*imidazo[4,5-*c*]quinolin-4(5*H*)-one via palladium-catalyzed cyclization of N-(2-bromophenyl)-1*H*-imidazole-4-carboxamide 6915
Kuroda Y. see Ema T. 4529
Kurt R. see Hondrogiannis G. 2303
Kurth M. J. see Kim H. R. 4259
Kurth M. J. see Tahir S. H. 335
Kurusu Y. see Masuyama Y. 225
Kusche A. Hoffmann R. Münster I. Keiner P. and **Brückner R.** A direct synthesis of O,S-acetals from aldehydes 467
Kusuda S. Watanabe Y. Ueno Y. and **Toru T.** An extremely short synthesis of the prostaglandin key intermediate through a novel vinyl anion equivalent 1325
Kusumi T. Fujita Y. Ohtani I. and **Kakisawa H.** Anomaly in the modified Mosher's method: absolute configurations of some marine cembranolides 2923
Kusumi T. Fukushima T. Ohtani I. and **Kakisawa H.** Elucidation of the absolute configurations of amino acids and amines by the modified Mosher's method 2939
Kusumi T. see Ezaki K. 2793
Kusumi T. see Ishitsuka M. O. 2917
Kusumi T. see Ishitsuka M. O. 6595
Kusumi T. see Kotsuki H. 4159
Kusumoto S. see Fukase K. 3557
Kusumoto S. see Fukase K. 4019
Kusumoto T. Nakayama A. Sato K. Hiyama T. Takehara S. Shoji T. Osawa M. Kuriyama T. Nakamura K. and **Fujisawa T.** Synthesis of new optically active cyanocyclopropanes as chiral dopants for ferroelectric liquid crystals 939
Kusurkar R. S. and **Bhosale D. K.** α,β-Unsaturated oxime as a new heterodiene for the Diels-Alder reaction-synthesis of furo [2,3-*c*] pyridine N-oxides 3199
Kuwabe S. see Morimoto Y. 2909
Kuzuhara H. see Takahashi S. 5123
Kvícala J. see Paleta O. 251
Kwon J. H. Lee S. J. and **Shim S. C.** Photochemistry of conjugated polyacetylenes: photoreaction of 1-phenyl-1,3-pentadiyne with some olefins 6719
Kwon O. O. see Cha J. S. 6903
Kwong H.-L. see Ogino Y. 3965

Labrecque D. see Chan T. H. 1149
Lacombe L. see Dalkafouki A. 5325
Lacroix L. see Dols P. P. M. A. 3739
Laczkó I. see Hollósi M. 1531
Laczko I. see Urge L. 3445
Lafargue F. see Aracil J.-M. 2609
Lagerwall D. R. see Paquette L. A. 5259
Lagerwall D. R. see Paquette L. A. 6529
Lahti P. M. see Kearley M. L. 5869
Laidig G. see Wagner P. J. 895
Lallemand J. Y. see Bouchard H. 5953
Lallemand J. Y. see Bouchard H. 5957
Lallemand J. Y. see Lejeune J. 2621
Lallemand J.-Y. see Aranda G. 1783
Lallemand J.-Y. see Pan J. 7543
Lamandé L. and **Munoz A.** The first spirocyclic hydridophosphorane with two four membered rings 763
Lamandé L. et **Munoz A.** Stabilisation de cations oxophosphénium par liaisons datives P←N 75
LaMattina J. L. see Bussolotti D. L. 6503
Lamaty G. see André B. 1881
Lamaty G. see André B. 4056
Lamaty G. see Boyer B. 1191
Lamberth C. and **Bednarski M. D.** An efficient method for the deprotection of allyl glycosides with adjacent azides: the circumvention of unwanted dipolar cycloaddition products 7369
Lambs L. Singh N. P. and **Biellmann J.-F.** Enantiospecific synthesis of a chrysanthemic acid precursor by the Katsuki-Sharpless epoxidation and the Stork cyclisation 2637
Lamothe M. see Anderson M. B. 4457
Lamothe S. and **Chan T. H.** Chiral organosilicon compounds in synthesis: regio and stereoselective alkylation of a chiral α-silylcinnamyl carbanion 1847
Lampard C. Murphy J. A. and **Lewis N.** On the mechanism of

homolytic acylation of ferrocenes 4993
Lamy-Schelkens H. see Sustmann R. 1401
Lang R. W. see Allmendinger T. 339
Lang R. W. see Differding E. 1779
Langadianou E. see Chaloner P. A. 6037
Lange C. see Berthelot J. 4135
Lange J. H. M. Sommerdijk N. A. J. M. Dols P. P. M. A. Arnouts E. G. Klunder A. J. H. and **Zwanenburg B.** Tricyclo[5.2.1.$0^{2,6}$]decadienone epoxides: rigid, highly congested α,β-epoxycyclopentanones with distinctive chemical behavior 3127
Langhals M. see Risch N. 4465
Langlois B. see Alvernhe G. 643
Langlois B. R. Anomalous Reimer–Tiemann reaction from phenol, chloroform and potassium fluoride in sulfolane 3691
Langlois B. R. Laurent E. and **Roidot N.** Trifluoromethylation of aromatic compounds with sodium trifluoromethanesulfinate under oxidative conditions 7525
Langlois N. and **Andriamialisoa R. Z.** Diastereoselective synthesis of (2*S*,3*R*) 2-carboxy-3-pyrrolidine acetic acid, a simple kainic acid analogue 3057
Langlois N. and **Favre F.** Studies towards the synthesis of antitumor antibiotics of the anthramycin group 2233
Langlois Y. see Ortuno J.-C. 4491
Langston S. P. see Blackburn G. M. 6425
Laplerre J. M. and **Gravel D.** Condensation of β-ketoester enamines with double Michael acceptors: a doubly chemoselective bicycloannulation methodology 2319
Lardicci L. see Caporusso A. M. 7471
Largeron M. and **Fleury M.-B.** Electrochemical synthesis of 2-substituted 5-aminofurans 631
Larock R. C. and **Kuo M.-Y.** Palladium-catalyzed synthesis of quinolines from allylic alcohols and *o*-iodoaniline 569
Larock R. C. and **Lee N. H.** Synthesis of carbacyclins via palladium-promoted, tandem alkene insertion 5911
Larock R. C. and **Lee N. H.** Synthesis of allylic aryl ethers via palladium-catalyzed decarboxylation of allylic aryl carbonates 6315
Laronze J.-Y. Gauvin-Hussenet C. and **Lévy J.** 'Homo-Pictet-Spengler' cyclization of tryptamines: an easy access to the hexahydroazepino[4,5-*b*]indole ring system 619
Larpent C. Meignan G. and **Patin H.** Reverse microemulsions mediated synthesis of vinylphosphonium salts 2615
Larsen B. D. see Frederiksen J. 5823
Larson A. L. Baker D. L. Towne R. W. and **Straus D. A.** Alkylation of carbonyl compounds with dialkylzirconocene complexes promoted by potassium *t*-butoxide 5893
Laszlo P. see Collet C. 2905
Laszlo P. Levart M. and **Singh G. P.** Catalysis of the epoxidation of olefins 3167
Laszlo P. see Cornélis A. 1423
Laszlo P. see Cornélis A. 2901
Laszlo P. see Cornélis A. 2903
Laszlo P. see Delaude L. 3705
Laszlo P. and **Montaufier M.-T.** A co-reactant reverses relative reactivities 1561
Laszlo P. and **Teston-Henry M.** A mechanistic test for reactions catalyzed by Lewis acids 3837
Latouche R. Texier-Boullet F. and **Hamelin J.** Alkali metal fluoride mediated silyl-Reformatsky reaction in solid-liquid media; activation by microwaves 1179
Lauk U. Dürst D. and **Fischer W.** Total synthesis of the Amaryllidaceae alkaloid ungeremine 65
Laurens A. see Figadère B. 7539
Laurent A. see Alvernhe G. 643
Laurent A. J. Le Drean I. M. and **Selmi A.** Synthesis of trifluoromethylalkenes and alkynes. Trifluoromethyl captodative olefins 3071
Laurent E. see Langlois B. R. 7525
Lautens M. and **Chiu P.** The reductive ring-opening of oxabicyclic compounds 4827
Lauterbach E. H. see Reetz M. T. 4477
Lauterbach E. H. see Reetz M. T. 4481
Lavallée J.-F. see Guindon Y. 27
Lavallée J.-F. and **Just G.** Asymmetric synthesis of 3'-carbomethoxymethyl-3'-deoxythymidine via radical cyclization 3469
Lavergne J.-P. see El Hadrami M. 3985
Laxma Reddy K. see Rama Rao A. V. 1251
Layrolle P. see Etemad-Moghadam G. 5965
Le Bec C. and **Huynh-Dinh T.** Synthesis of lipophilic phosphate triester derivatives of 5-fluorouridine and arabinocytidine as anticancer prodrugs 6553
Le Corre M. see Le Deit H. 2759
Le Deit H. Cron S. and **Le Corre M.** Reaction of borane–dimethyl sulfide complex with aromatic acids: access to methyl compounds or to benzyl dimethyl sulphonium salts 2759
Le Drean I. see Alvernhe G. 643
Le Drean I. M. see Laurent A. J. 3071
Le Gall T. see Quinton P. 4909
Le Goffic F. see Meffre P. 4717
Le Merrer Y. see Gravier-Pelletier C. 1165
Le Moigne F. Mercier A. and **Tordo P.** β-Phosphorylated cyclic nitroxides-II. Synthesis of pyrrolidin- and piperidin-2-yl phosphonates and the corresponding stable nitroxides 3841
Le Nguyen D. see Perich J. W. 4033
Le Nocher A. M. and **Metzner P.** Direct synthesis of sulfines by oxidation of enethiolizable thioketones 747
Leanna M. R. see Plata D. J. 3623
Lebl M. see Pátek M. 3891
Leblanc C. see Cossy J. 3051
Leblanc Y. see Grondin R. 5021
Leboeuf M. see Cortes D. 6133
Lebrun A. Namy J.-L. and **Kagan H. B.** A new preparation of lanthanide alkoxides, and some applications in catalysis 2355
Lecas-Nawrocka A. see Boitrel B. 2129
Lecoq A. Marraud M. and Aubry A. Hydrazino and N-amino peptides. Chemical and structural aspects 2765
Lee A. W. M. Chan W. H. and **Lee Y.-K.** Chiral acetylenic sulfoxide in alkaloid synthesis. Total synthesis of (*R*)-(+)-carnegine 6861
Lee C. H. and **Kim Y. H.** Direct regioselective arylsulfenylation and arylselenenylation at 5-position of uracils mediated by silver reagents 2401
Lee C. M. see Yang Z. 2061
Lee D. Y. and **Chiang V. L.** Synthesis of (*E*)-4-(3-hydroxy-1-propenyl)-2-methoxyphenol-bovine serum albumin conjugate: a novel hapten-protein conjugate 5255
Lee E. and **Hur C. U.** Intermolecular addition of α-alkoxycarbonyl-β-stannylvinyl

radicals to electron-deficient alkenes. Simple addition and [2+2+2]annulation reactions 5101
Lee H. K. see Pak C. S. 6011
Lee H. S. see Cha J. S. 6903
Lee J. Oya S. and **Snyder J. K.** Asymmetric oxidation of β-ketoesters with benzoyl peroxide; enantioselective formation of protected tertiary alcohols 5899
Lee J. C. see Cha J. S. 6903
Lee J. C. see Kang K.-T. 4341
Lee J. C. see Kim S. S. 4725
Lee J. I. see Lipshutz B. H. 7211
Lee J.-T. and **Alper H.** Direct, regioselective hydrocarboxylation of alkynes to saturated acids by cobalt and nickel catalysts under phase transfer conditions 1769
Lee K. C. see Burke S. D. 3957
Lee M. L. see Rossiter B. E. 3609
Lee N. H. Muci A. R. and **Jacobsen E. N.** Enantiomerically pure epoxychromans via asymmetric catalysis 5055
Lee N. H. see Larock R. C. 5911
Lee N. H. see Larock R. C. 6315
Lee N. H. and **Jacobsen E. N.** Enantioselective epoxidation of conjugated dienes and enynes. *trans*-Epoxides from *cis*-olefins 6533
Lee S. see Kim S. 3395
Lee S. see Kim S. 6575
Lee S. E. see Cha J. S. 6903
Lee S. H. see Jeong N. 2137
Lee S.-J. see Chou T. 3551
Lee S. J. see Jeong N. 2137
Lee S. J. see Kwon J. H. 6719
Lee S.-S. see Wu Y.-C. 4169
Lee S. W. and **Fuchs P. L.** Controlled endocyclic and exocyclic γ-metalations of β-substituted cyclohexenyl sulfones. Regiospecific syntheses of γ-oxygenated cyclohexenyl sulfones 2861
Lee Y. K. see Kim D. 6885
Lee Y.-K. see Lee A. W. M. 6861
Lefeuvre S. see Berlan J. 2363
Lefrançois J.-M. see Marek I. 5969
Léger J.-M. see Nkiliza J. 1787
Legler G. see Gradnig G. 4889
Legros J.-Y. see Fiaud J.-C. 5089
Lehnen H. see Bestmann H. J. 4279
Lei X.-G. see Ramamurthy V. 7675
Leigh A. J. see Majetich G. 605
Leigh A. J. see Majetich G. 609
Lejeune J. Lallemand J. Y. Prangé T. and **Ricard L.** An enantioselective route towards clerodane diterpenoids 2621
Lellouche I. see Balavoine G. 2351
Lellouche J.-P. see Gigou A. 635
Lemarié M. Pham T.-N. and **Metzner P.** The first synthesis of aliphatic sulfines from thionoesters 7411
Lemieux R. see Guindon Y. 27
Lemieux R. see Guindon Y. 5453
Lenardão E. J. see Silveira C. C. 5741
Lensen N. see Alexakis A. 1171
Leo G. see Caldwell G. W. 3763
Leon F. M. and **Carretero J. C.** β-Phenylsulfonylenones as α,β-acetylenic ketones equivalents in Diels–Alder reactions 5405
León-Colón G. see Soderquist J. A. 43
Leon-Ruaud P. Allainmat M. and **Plusquellec D.** A new efficient acylation of free glycosylamines 1557
Leonard, Jr. W. R. see Meyers A. I. 597
Leone C. L. and **Chamberlin A. R.** Lithium aluminum hydride reduction of N-aziridinylimines to hydrocarbons 1691
Leonov A. N. see Kononenko G. P. 1893
Leroy R. see Gautier C. 3361
Lesage M. see Arya P. 2853
Letulle M. Guenot P. and **Ripoll J.-L.** The syntheses of 6-methylene-2,4-cyclohexadien-1-imine and related o-quinonoids by FVT of 1-hetero-1,2,3,4-tetrahydronaphthalenes 2013
Leung S. S. see Dauben W. G. 4643
Levanon M. see Pomerantz M. 995
Levart M. see Laszlo P. 3167
Levin W. see Boyd D. R. 2963
Levine B. H. see Nuss J. M. 5243
Lévy J. see Laronze J.-Y. 619
Lévy J. Soufyane M. Mirand C. Döé de Maindreville M. and **Royer D.** Oxidative functionalization of some *Aspidosperma* alkaloids with trifluoroacetic anhydride 5081
Lewis D. P. Muller P. M. Whitby R. J. and **Jones R. V. H.** A zirconium catalysed synthesis of 1,4-dimagnesium reagents 6797
Lewis N. see Lampard C. 4993
Lewis T. see Campbell M. M. 1237
Lewis T. J. see Ramamurthy V. 7675
Ley S. V. Lovell P. J. Smith S. C. and **Wood A.** Chemistry of insect antifeedants from *Azadirachta indica*–IX. Oxidative reactions of azadirachtin derivatives leading to C8-C14 bond cleavage 6183
Ley S. V. see Bates R. W. 2651
Ley S. V. see Knight J. G. 7119
Ley S. V. see Kolb H. C. 6187
Lézé A. see Brown E. 4309
Lhermitte H. see Meffre P. 4717
Lhomme J. see Defrancq E. 5333
Lhomme M.-F. see Defrancq E. 5333
Lhommet G. see Rosset S. 7521
Lhommet G. see Saliou C. 3365
Li C. J. and **Chan T. H.** Organometallic reactions in aqueous media with indium 7017
Li C.-J. and **Harpp D. N.** Bis(triphenylstannyl)tellluride. A mild and efficient reductive dehalogenation reagent for α-haloketones 1545
Li C.-S. see Dolle R. E. 5029
Li H.-Y. see Kakinuma K. 5801
Li L.-H. Wang D. and **Chan T. H.** Regioselective alkylation of 1-silyl-2-methylallyl carbanions 2879
Li S. Bernstein E. R. Secor H. V. and **Seeman J. I.** Supersonic jet studies of benzylamines. Geometry of their minimum energy conformations 3945
Li Y. see Szabò L. 585
Li Z.-Q. see Wang W.-B. 3999
Liao C.-C. see Hung S.-C. 4011
Liao C.-C. see Hwang J.-T. 6583
Liao C.-C. and **Wei C.-P.** Photochemistry of masked *o*-benzoquinones. A novel entry to cyclopentenone derivatives 4553
Liao W. Y. see Warrener R. N. 1889
Liao Y. see Martin S. F. 6481
Lichtenthäler J. see Gleiter R. 2883
Lichtenthäler J. see Gleiter R. 2887
Lichtle P. see Tronchet J. M. J. 4129
Lieberknecht A. Schmidt J. and **Stezowski J. J.** Diastereoselective synthesis of ribofuranosyl glycines 2113
Liebeskind L. S. and **Riesinger S. W.** Palladium-catalyzed oxidative dimerization of stannylquinones. A simple method for the synthesis of symmetrical 2,2'-bisquinones 5681
Liebman J. F. see Hosmane R. S. 3949
Lienard P. Royer J. Quirion J.-C. and **Husson H.-P.** Asymmetric synthesis—XXIV. Benzoquinolizidine analogues of podophyllotoxin via the CN(R,S) method 2489
Lim B. U. see Kim Y. H. 2057
Lim J. K. see Kang S. H. 4015
Lim J.-S. see Kang S.-K. 363
Lim L. B. L. see Crich D. 2565

Lin C.-T. see Chou T.-C. 6351
Lin S.-I. see McCombie S. W. 2083
Lin S.-K. see Yeh M.-C. P. 113
Lin T.-C. see Yan T.-H. 4959
Lin T.-C. see Yan T.-H. 5563
Linder S. M. see Snowden R. L. 4119
Lindner H. J. see Komatsu K. 6767
Lindsay D. A. see Mordi R. C. 4203
Lindsey J. S. see Wagner R. W. 1703
Ling C.-C. see Coleman A. W. 3997
Ling C.-C. see Zhang P. 2769
Linstrumelle G. see Alami M. 6109
Liou J.-Y. see Wu Y.-C. 4169
Lippard S. J. see Whiteker G. T. 5019
Lipshutz B. H. and **Kato K.** Hydrozirconation/transmetalation /alkylation: direct one-pot conversion of 1-alkynes to *E*-1,2-disubstituted alkenes 5647
Lipshutz B. H. and **Lee J. I.** A one-pot, lynchpin approach to 1,4-disubstituted *E,E*-butadienes via multiple cyanocuprate-mediated transmetalations 7211
Liskamp R. M. J. see Bol K. M. 5401
Liskamp R. M. J. see Moree W. J. 409
Liskamp R. M. J. see van Oijen A. H. 7723
Lister M. A. see Paterson I. 1749
Litaudon M. and **Guyot M.** Lissoclinotoxin A, an antibiotic 1,2,3-trithiane derivative from the tunicate *Lissoclinum perforatum* 911
Litvinov V. P. see Niyazymbetov M. E. 1099
Liu H.-J. Chew S. Y. and **Browne E. N. C.** Diels–Alder reactions of chiral 5,5-dimethyl-4,6-methano-2-methoxy-carbonyl-2-cyclohexenone 2005
Liu H.-J. and **Al-said N. H.** Formation and efficient addition of cerium(III) derivative of acetonitrile to ketones 5473
Liu L. and **Katz T. J.** Bromine auxiliaries in photosyntheses of [5]helicenes 6831
Liu L. T. see Harding K. E. 3795
Liu L.-H. see Yan T.-H. 4959
Liu P. S. Kang M. S. and **Sunkara P. S.** A potent inhibitor of β-*N*-acetylglucosaminidases: 6-acetamido-6-deoxycastanospermine 719
Liu P. S. Rogers R. S. Kang M. S. and **Sunkara P. S.** Synthesis of polyhydroxylated indolizidine and quinolizidine compounds—potent inhibitors of α-glucosidase—I 5853
Liu R. S. H. see Colmenares L. U. 1933
Liu W.-G. see Barton D. H. R. 6263
Liu Z. Y. see Klunder A. J. H. 3131
Lizunova T. L. see Nikishin G. I. 2655
Llera J. M. Fernández I. and **Alcudia F.** An efficient synthesis of both enantiomers of chiral non racemic methylsulfoxides from DAG 7299
Llinares M. see Rodriguez M. 923
Lloyd-Williams P. Jou G. Albericio F. and **Giralt E.** Solid-phase synthesis of peptides using allylic anchoring groups. An investigation of their palladium-catalysed cleavage 4207
Lluch A.-M. Sánchez-Baeza F. Camps F. and **Messeguer A.** Dimethyldioxirane in organometallic chemistry: a convenient procedure for the decomplexation of arene chromium tricarbonyl compounds 5629
Lobo A. M. see Almeida P. S. 2671
Lochmann L. and **Petránek J.** More efficient metallation of alkylbenzenes by modified superbases from butyllithium and potassium alkoxides. Effect of alkoxide structure and concentration 1483
Lochon P. see Faivre V. 193
Loewe M. F. Cvetovich R. J. and **Hazen G. G.** An efficient β-amino acid cyclodehydration using methanesulfonyl chloride to thienamycin intermediate 3-[1-hydroxyethyl]-4-[methoxycarbonylmethyl]-azetidin-2-one 2299
Loffet A. see Bertho J.-N. 1303
Loganathan V. see Grigg R. 687
Logusch E. W. Dukesherer D. R. Getman K. M. and **Franz J. E.** Facile synthesis of 4-*N*-phosphonomethyl-2,4-diaminobutyrates as inhibitors of glutamine synthetase 2711
Lohse P. Loner H. Acklin P. Sternfeld F. and **Pfaltz A.** Oxiranyllithium reagents: generation from organotin precursors, addition to aldehydes and ketones, and dimerization to α,α'-dialkoxyolefins 615
Lolkema L. D. M. Hiemstra H. Al Ghouch A. A. and **Speckamp W. N.** Synthesis of oxacyclic carboxylic esters through ring closure of α-alkoxy ester free radicals 1491
Loner H. see Lohse P. 615
Long Q.-H. see Katritzky A. R. 3597
Longley K. L. see Schmidhauser J. C. 7155
Lönn H. see Birberg W. 7453
Lönn H. see Birberg W. 7457
Lönnberg H. see Zavgorodny S. 7593
Look G. C. see Wong C.-H. 4867
Looney M. G. see Curtis N. R. 537
Lopez C. see Santiago B. 3457
Lopez C. see Soderquist J. A. 6305
Lopez L. see Diallo O. S. 501
Lopez L. Troisi L. and **Mele G.** Electron-transfer reactions on hindered olefins induced by aminium salts 117
López M. C. see Palomo C. 2525
Lopez-Leonardo C. see Molina P. 4041
López-Tudanca P. L. Jones K. and **Brownbridge P.** Substituent control in the synthesis of tetrahydropyrans, oxepanes and oxocanes by episulphonium ion-mediated cyclisation 2261
Loren S. D. see Hawkins J. M. 1635
Lorenc L. see Rajkovic M. 7605
Lottes A. C. see Gassman P. G. 6473
Loubinoux B. and **Gerardin P.** Protection of amines with the 4-azidomethylenoxybenzyloxycarbonyl group 351
Lough A. J. see Tinto W. F. 4661
Lourenço A. de la Torre M. C. and **Rodríguez B.** Transformation of montanin A into isocrotocaudin. A revision of the structures of crotocaudin and isocrotocaudin 7305
Louwrier S. see Koot W.-J. 401
Lovell P. J. see Ley S. V. 6183
Lowenthal R. E. and **Masamune S.** Asymmetric copper-catalyzed cyclopropanation of trisubstituted and unsymmetrical *cis*-1,2-disubstituted olefins: modified bis-oxazoline ligands 7373
Lu H. see Morken P. A. 4271
Lu J. see Kanavarioti A. 6065
Lu S.-T. see Wu Y.-C. 4169
Lu X. see Guo C. 7549
Lu Z.-H. see Zhou W.-S. 1467
Lubag A. J. M. see Yoshida K. 5575
Lübben D. see Ogino Y. 5761
Lubin N. see Lubineau A. 7529
Lubineau A. Augé J. and **Lubin N.** Hetero Diels–Alder reaction in water. Synthesis of α-hydroxy-γ-lactones 7529
Lucente G. see Zecchini G. P. 4375

Lucente G. see Zecchini G. P. 6779
Luche J.-L. see Dickens M. J. 4709
Luche J.-L. see Einhorn C. 2771
Lucke A. J. and **Young D. J.** The electrophilic cleavage of cyclopropylcarbinylstannanes. Confirmation of Traylor's prediction 807
Lue P. see Katritzky A. R. 3597
Luheshi A.-B. N. Salem S. M. Smalley R. K. Kennewell P. D. and **Westwood R.** Corrigendum 4056
Lumin S. Falck J. R. and **Schwartzman M. L.** A concise synthesis of (*R*)-hydroxy-*E,Z*-diene fatty acids: preparation of 12(*R*)-HETE, tetranor-12(*R*)-HETE, and 13(*R*)-HODE 2315
Lund K. P. see Harvey D. F. 6311
Lund T. Correlation between inner-sphere stabilization and stereochemistry for the aliphatic nucleophilic substitution 1595
Luo F.-T. and **Wang R.-T.** Palladium-catalyzed cyclization and cross-coupling of acetylenic aryl triflates with organotin reagents 7703
Luo H.-W. see Sun X-R. 5797
Luo J. and **Ganem B.** A new method for transforming primary amines into phosphoric acid monoesters 3145
Lutz A. see Winterhalter P. 3669
Lutz A. Winterhalter P. and **Schreier P.** Isolation of a glucosidic precursor of isomeric marmelo oxides from quince fruit 5943
Luu B. see Mauvais A. 5171

Ma C. and **Miller M. J.** Asymmetric synthesis of α-hydroxyethyl β-lactam derivatives: an approach to thienamycin 2577
Ma D. see Kozikowski A. P. 3317
Ma J. see Corcoran R. C. 6513
Ma L. see Jenny T. A. 6101
Macchia F. see Chini M. 4775
Macchia F. see Chini M. 6617
MacKenzie A. R. see Craig D. 6973
Macor J. E. and **Newman M. E.** Synthesis of a dihydropyrano[3,2-*e*]indole as a rotationally restricted phenolic analog of the neurotransmitter serotonin 3345
Macor J. E. and **Wehner J. M.** The use of *o*-nitroarylacetonitriles as carbon acid participants in the Mitsunobu reaction 7195
Maeda S. see Kuroda S. 655
Maehara A. see Danda H. 5119
Maeji N. J. see Bray A. M. 6163
Maekawa H. see Urata H. 4733
Maestro C. see Solladié G. 509
Magar S. S. and **Fuchs P. L.** Synthesis of tertiary alcohols via the use of the allyldimethylsily moiety as a latent hydroxyl group in the Kumada–Fleming–Tamao reaction 7513
Maggini M. Prato M. and **Scorrano G.** 2-Azanorbornadiene 6957
Maggini M. see Ihmels H. 6215
Magriotis P. A. Brown J. T. and **Scott M. E.** A highly selective synthesis of versatile (*E*)-1-phenylthio vinylstannanes 5047
Magriotis P. A. Scott M. E. and **Kim K. D.** A novel approach to the synthesis of enediynes 6085
Mahmood K. Fontaine C. Païs M. Ali H. M. Hadi H. A. and **Guittet E.** Cyathostemmine, a new shikimic acid derivative from *Cyathostemma viridiflorum* Griff. 6117
Mahnot R. see Bansal R. K. 6433
Mahon M. F. see Campbell M. M. 951
Maier G. Heider M. und **Sierakowski C.** Sind Pyrazolin-3,5-dione als Vorstufen für Carbene geeignet? 1961
Maier G. Reisenauer H. P. und **Ulrich A.** Matrixspektroskopische Untersuchungen zur Existenz von C_7O_2(1,2,3,4,5,6-Heptahexaen-1,7-dion) 4469
Maier G. und **Fleischer F.** Ein alternativer Zugang zum Tetra-*tert*-butyltetrahedran 57
Maier M. E. and **Brandstetter T.** Oxidative generation of an enediyne system from a 1,5-diyne precursor. A novel triggering device for enediynes 3679
Maier M. E. and **Schöffling B.** An enantioselective synthesis of the C(10) to C(20) fragment of FK506 53
Maignan C. see Guillot C. 4907
Maillard B. see Djeghaba Z. 761
Maillard M. see Gillard J. W. 1145
Maillard Ph. Guerquin-Kern J. L. and **Momenteau M.** Catalytic properties of iron and manganese glycoconjugated porphyrins 4901
Maillo M. A. see Nakano T. 7667
Maiti S. B. see Patra R. 1363
Majerski Z. see Mlinaric-Majerski K. 1655
Majetich G. Leigh A. J. and **Condon S.** Synthetic applications of Gilman reagents derived from 2-bromo-2-cycloalken-1-one ethylene ketals 605
Majetich G. and **Leigh A. J.** The preparation of allylsilanes from vinyl cuprates 609
Majidi A. see Bellassoued M. 7253
Majoral J. P. see Gonce F. 203
Makabe K. see Murakami M. 2391
Maki S. Suzuki T. Kosemura S. Shizuri Y. and **Yamamura S.** Intramolecular reaction of electrogenerated phenoxy cations with an olefin bearing an electron-releasing group at the side chain 4973
Makowski M. R. see Goldstein S. W. 5493
Malacria M. see Smadja W. 3683
Malanda J.-C. see Rochigneux I. 2017
Mallart S. see Genêt J. P. 2359
Malochet-Grivois C. Cotelle P. Biard J. F. Hénichart J. P. Debitus C. Roussakis C. and **Verbist J. F.** Dichlorolissoclimide, a new cytotoxic labdane derivative from *Lissoclinum voeltzkowi* Michaelson (Urochordata) 6701
Malon P. Bonmatin J.-M. and **Brack A.** Synthesis and characterization of cyclic peptides with hydrolytic activity 5337
Malone J. F. see Boyd D. R. 2963
Malone J. F. see Coulter T. 5417
Malone J. R. see Coates B. 2827
Mamdapur V. R. see Singh U. 255
Mancini I. see Guella G. 6415
Mandai T. Murakami T. Kawada M. and **Tsuji J.** A new stereoselective synthetic method for bicyclo[3.3.0]octane framework 3399
Mandai T. Ogawa M. Yamaoki H. Nakata T. Murayama H. Kawada M. and **Tsuji J.** Palladium-catalyzed reactions of 2-alkynyl carbonates with olefins. A new synthetic method for vinyl allenes 3397
Mandai T. Ryoden K. Kawada M. and **Tsuji J.** Synthesis of α-vinylidine-β-lactams by the palladium-catalyzed carbonylation of 4-amino-2-alkynyl carbonates 7683
Mandai T. Suzuki S. Ikawa A. Murakami T. Kawada M. and **Tsuji J.** Palladium-catalyzed tandem carbonylation and intramolecular Diels—Alder reaction of 4-alken-2-ynyl carbonates: a new synthetic

method for polycyclic compounds 7687
Mander L. N. see Bhaskar K. V. 6203
Manfredini S. see Aghazade Tabrizi M. 683
Mangeney P. Gosmini R. and **Alexakis A.** Enantioselective synthesis of indoloquinolizidines 3981
Mangeney P. see Alexakis A. 1171
Manginot E. see Cristau H.-J. 347
Manhas M. S. see Subbaraju G. V. 4871
Manickam M. C. D. see Pitchumani K. 2975
Manjula M. V. see Mehta G. 6219
Mann A. see Franciotti M. 6783
Manoharan M. Guinosso C. J. and **Cook P. D.** Novel functionalization of the sugar moiety of nucleic acids for multiple labeling in the minor groove 7171
Manoury E. see Ogino Y. 5761
Mansell H. L. see Cliffe I. A. 6789
Mansuri M. M. Krishnan B. and **Martin J. C.** A potentially simple ^{13}C NMR method to assign regio- and stereo-chemistry of (2'-deoxy-2'-fluoroarabinofuranosyl) nucleosides 1287
Mansuy D. see Battioni P. 2893
Mantel R. A. see Rosenberg S. H. 6507
Maplestone R. A. see Stone M. J. 2663
Maquestiau A. Mayence A. and **Vanden Eynde J.-J.** Ultrasound-promoted aromatization of Hantzsch 1,4-dihydropyridines by clay-supported cupric nitrate 3839
Mar E. K. see Chong J. M. 5683
Marcelo-Curto M. J. see Almeida P. S. 2671
Marchand C. see Berlan J. 2363
Marco J. A. Sanz J. F. Yuste A. and **Jakupovic J.** A novel germacranolide–aminoacid adduct dimer from *Centaurea aspera* 5193
Marco J. A. see Asensio G. 4197
Marco J. A. see Carda M. 5191
Marco-Contelles J. Martínez L. Martínez-Grau A. Pozuelo C. and **Jimeno M. L.** Carbocycles from carbohydrates: a free radical route to aminocyclitol derivatives 6437
Marcoux J.-F. see Charette A. B. 7215
Marecak D. M. see Buist P. H. 891
Marecek J. F. and **Prestwich G. D.** Synthesis of tethered phytic acid 1863
Marek I. Alexakis A. and **Normant J.-F.** A highly efficient synthesis of (Z) γ-iodo allylic alcohols 5329
Marek I. Alexakis A. and **Normant J.-F.** γ-Tributylstannyl-β-metallated acrolein: a versatile synthon 6337
Marek I. Lefrançois J.-M. and **Normant J. F.** Acyclic stereocontrol through the metalla-Claisen rearrangement—I 5969
Marek I. and **Normant J. F.** Acyclic stereocontrol through the metalla-Claisen rearrangement–II 5973
Marfey P. see Damha M. J. 2573
Margaretha P. see Kravitz J. I. 31
Margiatto G. see Blizzard T. A. 2437
Margiatto G. see Blizzard T. A. 2441
Margiatto G. see Blizzard T. 2723
Markandu J. see Grigg R. 279
Markides K. E. see Rossiter B. E. 3609
Markó I. E. see Bailey M. 2687
Markó I. E. see Mekhalfia A. 4779
Markó I. E. see Mekhalfia A. 4783
Markó I. E. see Swarbrick T. M. 2549
Markó I. E. and **Kantam M. L.** Catalytic C–C bond formation using triorganothallium reagents 2255
Markó I. E. and **Richardson P. F.** Controlling the reactivity of permanganate anion. Novel, stereospecific dichlorination of olefins 1831
Markowski L. see Sanchez M. 2775
Marmon R. J. see Bowman W. R. 6441
Marples B. A. Muxworthy J. P. and **Baggaley K. H.** Dioxirane mediated steroidal alkene epoxidations and oxygen insertion into carbon-hydrogen bonds 533
Marr J. see Rossiter B. E. 3973
Marraud M. see Lecoq A. 2765
Marron B. E. see Burke S. D. 857
Marschner C. see Baumgartner H. 611
Marshall J. A. and **Welmaker G. S.** Chiral γ-silyloxy allylstannanes as synthetic reagents. Proof of absolute configuration 2101
Marshallsay G. J. see Bryce M. R. 6033
Martelli J. see Cherkaoui H. 7259
Martens J. und **Scheunemann M.** EPC-Synthese von Verruculotoxin 1417
Martin A. see Josien H. 6547
Martín Castro A. M. see García Ruano J. L. 3195
Martin G. E. see Cardellina, II J. H. 2347
Martin J. C. see Mansuri M. M. 1287
Martín J. D. see Alvarez E. 2241
Martín J. D. see Alvarez E. 2245
Martín J. D. see Alvarez E. 2253
Martín J. D. see Zárraga M. 2249
Martin J. W. see Kirst H. A. 4839
Martin R. T. see King F. D. 2281
Martin S. F. Rein T. and **Liao Y.** Construction of the tricyclic ABC ring subunit of manzamine A via a novel intramolecular Diels–Alder reaction 6481
Martin S. F. and **Dodge J. A.** Efficacious modification of the Mitsunobu reaction for inversions of sterically hindered secondary alcohols 3017
Martín V. S. see Rodríguez C. Mª 2165
Martín-Cantalejo Y. see Alcaide B. 803
Martín-Lomas M. see Jaramillo C. 2501
Martínez A. see García-Granados A. 5383
Martínez A. see Herranz R. 7579
Martinez J. see Rodriguez M. 923
Martinez J. P. see Singleton D. A. 7365
Martínez L. see Marco-Contelles J. 6437
Martinez T. R. see Erden I. 1859
Martínez-Grau A. see Marco Contelles J. 6437
Martres P. Perfetti P. Zahra J.-P. and **Waegell B.** Synthesis of ambracetal and *epi*-8-ambracetal 765
Marugán J. J. see Crego M. 4185
Marumo S. see Natsume M. 3087
Maruyama T. see Okamura M. 1475
Marx J. N. Zuerker J. and **Hahn Y. P.** Acid catalyzed rearrangements of 4-methyl-4-cyanocyclohexadienone 1921
Maryanoff C. A. see Caldwell G. W. 3763
Marzouk H. see Chahma M. 6121
Masaki Y. see Ochiai M. 1327
Masaki Y. see Ochiai M. 4753
Masaki Y. see Ochiai M. 7711
Masamune S. see Lowenthal R. E. 7373
Mascareñas J. L. Pérez-Sestelo J. Castedo L. and **Mouriño A.** A short, flexible route to vitamin D metabolites and their side chain analogues 2813

Mascaretti O. A. see Salomon C. J. 4239
Mascavage L. M. and **Dalton D. R.** Surface catalyzed hydrochlorination of 1,3-butadiene 3461
Mascrier L. see Coleman A. W. 3997
Mashava P. M. see Georg G. I. 3151
Mashava P. M. see Georg G. I. 581
Mashima K. Hino T. and **Takaya H.** Synthesis and characterization of cationic trinuclear BINAP-Ru(II) complexes: crystal structure of $[Ru_3Cl_5((S)\text{-binap})_3]BF_4$ 3101
Mashima K. see Zhang X. 7283
Masiero S. see Bonini B. F. 815
Masiero S. see Bonini B. F. 2971
Masiero S. see Bonini B. F. 6801
Masnyk M. Free radical additions of α-iodoalkylphenyl sulfones to alkenes 3259
Massanet G. M. see Collado I. G. 3209
Massanet G. M. see Collado I. G. 3217
Mastalerz H. see Bouthillier G. 1023
Masuda H. see Shono T. 1051
Masuda M. see Takeda T. 5567
Masuda R. Hojo M. Ichi T. Sasano S. Kobayashi T. and **Kuroda C.** An alternative efficient method for transformation of thiocarbonyl to carbonyl group using trifluoroacetic anhydride 1195
Masuda S. see Uenishi J. 5097
Masumoto K. see Tani H. 2039
Masuyama Y. Nimura Y. and **Kurusu Y.** Palladium-catalyzed carbonyl allylation by 2-(hydroxymethyl)acrylate derivatives: synthesis of α-methylene-γ-butyrolactones 225
Mata E. G. see Salomon C. J. 4239
Mathé F. Castanet Y. Mortreux A. and **Petit F.** Synthesis of 2-butanone from ethylene and methyl formate catalysed by rhodium–iodide complexes 3989
Mathew R. M. see Perumattam J. 7183
Mathur N. C. and **Shechter H.** Rhodium acetate catalyzed and thermal reactions of 6-alkoxy-5-diazodihydrouracils 3799
Matia M. P. Ezquerra J. García-Navío J. L. Vaquero J. J. and **Alvarez-Builla J.** New uses of Westphal condensation: synthesis of flavocorylene and related indolo[2,3-*a*]quinolizinium salts 7575
Matro A. see Moss R. A. 1925
Matsuda A. see Yoshimura Y. 4549
Matsuda A. see Yoshimura Y. 6003
Matsuda H. see Murakami M. 2391
Matsuda I. Sakakibara J. and **Nagashima H.** A novel approach to α-silylmethylene-β-lactams via Rh-catalyzed silylcarbonylation of propargylamine derivatives 7431
Matsuda T. see Iwamoto K. 830
Matsudaira Y. see Tono M. 4023
Matsugo S. and **Saito I.** Photochemical cleavage of N-(hydroperoxyalkyl)phthalimides by intramolecular energy transfer 2949
Matsuhashi Y. see Tokitoh N. 6151
Matsukuma A. Nagumo S. Suemune H. and **Sakai K.** Preparation of chiral straight-chain compounds with syndiotactic methyl function 7559
Matsumoto K. Miura K. Oshima K. and **Utimoto K.** Potassium *t*-butoxide or silver acetate induced ring enlargement of silacyclobutane into silacyclopentane. Application to the synthesis of 1,4-diol 6383
Matsumoto K. see Kotsuki H. 4155
Matsumoto K. Takeyama Y. Oshima K. and **Utimoto K.** Base-induced rearrangement of oxiranylsilacyclobutane into silacyclopentane. Application to stereoselective synthesis of 4-alken-1-ol and 1,4,5-triol 4545
Matsumoto K. and **Ohta H.** Preparation of optically active ketones via enantioface-differentiating protonation of prochiral enolates 4729
Matsumoto S. see Arimura T. 5111
Matsumoto T. Hosoya T. Katsuki M. and **Suzuki K.** New efficient protocol for aryne generation. Selective synthesis of differentially protected 1,4,5-naphtalenetriols 6735
Matsumoto T. Jona H. Katsuki M. and **Suzuki K.** Efficient method for introducing vineomycin-fridamycin-type side chain. Total synthesis of fridamycin E 5103
Matsumoto T. Kakigi H. and **Suzuki K.** *ortho*-Metallation of anthracene derivative: problem and solution 4337
Matsumoto T. see Tokitoh N. 2049
Matsumoto T. see Tokitoh N. 6143
Matsumoto T. see Tokitoh N. 6877
Matsumoto Y. see Ueoka R. 6597
Matsumoto Y. and **Hayashi T.** Asymmetric double hydroboration of 1,3-dienes catalyzed by chiral phosphine–rhodium complexes 3387
Matsumura Y. see Corey E. J. 6289
Matsumura Y. see Shono T. 6723
Matsunaga H. Kimura K. Ishizuka T. Haratake M. and **Kunieda T.** Conformationally rigid chiral [4+2]cycloadduct-based 2-oxazolidinones as new auxiliaries 7715
Matsunaga K. see Kosemura S. 3543
Matsunaga K. see Suda H. 2791
Matsunaga K. Shizuri Y. Yamamura S. Kawai K. and **Furukawa H.** Isolation and structure of citreoindole, a ne metabolite of hybrid strain KO 0052 derived from *Penicillium citreo-viride* B. IFO 6200 and 4692 6883
Matsunaga S. see Fusetani N. 7073
Matsunaga S. see Fusetani N. 7291
Matsunaga S. and **Fusetani N.** Absolute stereochemistry of the calyculins, potent inhibitors of protein phosphatases 1 and 2A 5605
Matsushima T. Nakajima N. Yonemitsu O. and **Hata T.** Two distinct conformational isomers of the 16-membered epoxyenone, the key synthetic intermediate of maridonolides. Conformational analysis and completely stereoselective reduction of the C9 carbonyl group 5133
Matsusita H. see Takeda T. 6563
Matsuura K. see Yoshikawa K. 789
Matulenko M. A. see Burke S. D. 857
Mauersberger S. see **Müller H.-G.** 2009
Maumy M. see Capdevielle P. 3831
Mauri A. see Cesarotti E. 4381
Mauvais A. Hetru C. and **Luu B.** Synthesis of an ecdysteroid inhibitor of ecdysone biosynthesis 5171
Mayence A. see Maquestiau A. 3839
Mayer C. W. see Zambounis J. S. 2737
Mayer C. W. see Zambounis J. S. 2741

Mazaki Y. Murata S. and **Kobayashi K.** Thermal and photochemical formation of quinonoid derivatives of condensed polythiophenes and their spectral properties 4367
Mazières M.-R. see Sanchez M. 2775
Mazza F. see Zecchini G. P. 4375
Mazza F. see Zecchini G. P. 6779
Mazzanti G. see Bonini B. F. 815
Mazzanti G. see Bonini B. F. 2971
Mazzanti G. see Bonini B. F. 6801
Mazzola E. P. see Smith M. J. 991
McCarney M. T. see Coates B. 2827
McCarthy C. see Clark A. J. 2829
McClard R. W. see Witte J. F. 3927
McClellan W. J. see Basha F. Z. 5469
McClellan W. J. see Zelle R. E. 2461
McClure C. K. and **Grote C. W.** α,β-Functionalization of enones via pentacovalent oxaphospholenes 5313
McCollum C. and **Andrus A.** An optimized polystyrene support for rapid, efficient oligonucleotide synthesis 4069
McCombie S. W. Cox B. Lin S.-I. Ganguly A. K. and **McPhail A. T.** Controlling benzylic functionality and stereochemistry-I. Synthesis of the secopseudopterosin aglycone 2083
McCombie S. W. Cox B. and **Ganguly A. K.** Controlling benzylic functionality and stereochemistry-II. Synthesis of the pseudopterosin aglycone 2087
McCullough J. J. see Boyd D. R. 2963
McDermott R. E. see Goldstein S. W. 5493
McDermott T. S. see Black T. H. 6501
McDonald D. Q. see Coxon J. M. 7115
McDonald I. A. Nyce P. L. Jung M. J. and **Sabol J. S.** Syntheses of DL-2-fluoromethyl-*p*-tyrosine and -2-difluoromethyl-*p*-tyrosine as potential inhibitors of tyrosine hydroxylase 887
McDonough C. S. see Walters M. A. 179
McFadyen R. B. see Baldwin S. W. 4431
McGill T. K. see Johnson C. R. 2597
McInnes A. G. see Ayer S. W. 6301
McIntyre S. Sansbury F. H. and **Warren S.** The Thorpe–Ingold effect in the synthesis of tetrahydro-furans and pyrans by competitive cyclisation with phenylthio migration 5409
McIver J. M. see Baldwin S. W. 1937
Mckee S. P. see Ghosh A. K. 711
McKee S. P. see Ghosh A. K. 4251
McKee S. P. see Ghosh A. K. 5729
McLaughlin J. L. see Rieser M. J. 1137
McLaughlin M. L. see Garcia J. G. 3289
McLaughlin M. L. see Garcia J. G. 3293
McLay N. R. see Bailey P. D. 3895
McLean S. see Tinto W. F. 4661
McMordie R. A. S. see Boyd D. R. 2963
McMurray J. S. Solid phase synthesis of a cyclic peptide using Fmoc chemistry 7679
McMurry J. E. and **Phelan J. C.** Synthesis and conformation of unsubstituted calix[4]arene 5655
McNelis E. see Angara G. J. 2099
McNulty J. and **Still I. W. J.** Diastereoselective Pictet–Spengler reactions of L-(Boc)prolinal: a biomimetic synthesis of eudistomins H and I, and woodinine 4875
McPhail A. T. see Baldwin S. W. 5877
McPhail A. T. see McCombie S. W. 2083
McPhail A. T. see Nakano T. 7667
McPhail A. T. see Porter N. A. 707
McPhail D. R. see Nakano T. 7667
Mead K. T. see Tabaei S.-M. H. 2727
Medich J. see Rossiter B. E. 3973
Medio-Simon M. Otto C. and **Pindur U.** Reactions of 3-(tetrahydropyrid-4-yl)-indoles with dienophiles: new heterocyclic functionalized indoles and pyrido[*c*]annellated carbazoles 1771
Medzihradszky K. F. see Hollósi M. 1531
Meffert A. see Adam W. 6697
Meffre P. Lhermitte H. Vo-Quang L. Vo-Quang Y. and **Le Goffic F.** A new class of unusual α-aminoacids: α-aminoacid β,γ-enol thioethers 4717
Meghni A. see Combret J. C. 87
Mehl W. see Giese B. 4275
Mehta G. Reddy M. S. Radhakrishnan Manjula M. V. and **Viswamitra M. A.** Alkaloid synthesis: stereoselective approach towards fawcettimine-serratinine group of lycopodium alkaloids 6219
Mehta G. Reddy S. H. K. and **Reddy D. S. K.** Cycloaddition between norbornenobenzo-quinone and cyclobutadiene. An access to some novel polycyclic systems 6399
Mehta G. see Zhao S. 5753
Mehta G. and **Karra S. R.** An expedient cyclopentenone annulation protocol 3215
Mehta G. and **Reddy S. H. K.** Design of annulated, polyfunctional, [5]-prismane secologues 4989
Mehta G. and **Reddy S. H. K.** Discovery of a new reaction sequence: 'photo–photo metathesis' in polycyclic frames 6403
Mehta G. and **Shah S. R.** Total synthesis of cervinomycin A_1-trimethyl ether and cervinomycin A_2-methyl ether 5195
Mehta S. and **Pinto B. M.** Phenylselenoglycosides as novel, versatile glycosyl donors. Selective activation over thioglycosides 4435
Mei H.-Y. see Salehi A. 3453
Meier A. see Montforts F.-P. 3477
Meier A. see Montforts F.-P. 3481
Meier H. see Kretzschmann H. 5059
Meignan G. see Larpent C. 2615
Meinwald J. see Attygalle A. B. 4849
Meinwald J. see Davidson B. S. 5651
Mekhalfia A. Markó I. E. and **Adams H.** The intramolecular silyl modified Sakurai (ISMS) reaction. A novel and highly convergent synthesis of oxocenes 4783
Mekhalfia A. and **Markó I. E.** The silyl modified Sakurai (SMS) reaction. An efficient and versatile one-pot synthesis of homoallylic ethers 4779
Mekki B. Singh G. and **Wightman R. H.** Reactions of 2,3-*O*-isopropylidene derivatives of furanose sugars with organomagnesium and organolithium nucleophiles 5143
Meldal M. see Peters S. 5067
Mele G. see Lopez L. 117
Mello R. see Altamura A. 5445
Mellor J. M. Merriman G. D. and **Riviere P.** Synthesis of tetrahydroquinolines from aromatic amines, formaldehyde and electron rich alkenes:

evidence for nonconcertedness 7103
Mellor J. M. see Gregoire P. J. 7099
Mellor J. M. and **Mohammed S.** Synthesis of oxygen spirocycles by manganic acetate promoted additions to exocyclic enol ether derivatives 7107
Mellor J. M. and **Mohammed S.** A general route to spirocycles by radical additions to exocyclic unsaturated sulphides and related compounds 7111
Ménard M. see Bouthillier G. 1023
Mendonza L. A. see Aimi N. 4949
Mendoza E. M. T. see Lubag A. J. M. 5575
Mendoza J. S. see Kende A. S. 1699
Meng X.-J. see Wang Z. 1945
Meng X.-J. see Wang Z. 4619
Meng X.-J. see Wang Z. 5677
Mercier A. Berchadsky Y. Badrudin, Pietri S. and **Tordo P.** β-Phosphorylated five membered ring nitroxides, a new class of stable nitroxides-I. Synthesis by reaction of dialkylphosphites with 1-pyrroline-N-oxides 2125
Mercier A. see Le Moigne F. 3841
Mercier C. Mignani G. Aufrand M. and **Allmang G.** Efficient synthesis of pseudoionone by oxidative decarboxylation of allyl β-ketoesters 1433
Merényi R. see Plancquaert M.-A. 7265
Mereyala H. B. and **Ravi D.** A novel, iterative, stereoselective route to the synthesis of axially linked 2-deoxysaccharides 7317
Merino P. see Dondoni A. 3247
Merino P. see Garín J. 3263
Merola J. see Hudlicky M. 3134
Merola J. S. see Jois Y. H. R. 2997
Mérour J. Y. and **Coadou J. Y.** New synthesis of (±)-2-piperazinecarboxylic acid 2469
Merriman G. D. see Gregoire P. J. 7099
Merriman G. D. see Mellor J. M. 7103
Meshram H. M. see Kamal A. 2657
Messadi D. see Djeghaba Z. 761
Messeguer A. see Lluch A.-M. 5629
Mestdagh H. see Eddarir S. 69
Metni M. R. see Abarca B. 4977
Metternich H. J. und **Niecke E.** λ^3-1*H*-Phosphirene durch Wasserstoff-Eliminierung von λ^3-Phosphiranen 6537
Metzner P. see Le Nocher A. M. 747
Metzner P. see Lemarié M. 7411
Meyer A. see Péoc'h D. 207
Meyers A. I. Gonzalez M. A. Struzka V. Akahane A. Guiles J. and **Warmus J. S.** Chiral formamidines. Asymmetric synthesis of 1,1-disubstituted tetrahydroisoquinolines 5501
Meyers A. I. Guiles J. Warmus J. S. and **Gonzalez M. A.** Chiral lithio formamidines. Are they configurationally stable? 5505
Meyers A. I. Leonard, Jr. W. R. and **Romine J. L.** Highly diastereoselective addition to a novel chiral oxazinone. Further approaches to chiral quaternary carbon compounds 597
Meyers A. I. see Rawson D. J. 2095
Meyers A. I. Warmus J. S. Gonzalez M. A. Guiles J. and **Akahane A.** Chiral formamidines. The mechanism of mono- and di-alkylation leading to chiral, non-racemic tetrahydroisoquinolines 5509
Mezzina E. see Cainelli G. 2967
Michael J. P. see Hunter R. 1095
Michalski J. see Helinski J. 4981
Michejda C. J. see Blumenstein J. J. 183
Michel A. see Showalter H. D. H. 2849
Michel K. H. see Kirst H. A. 4839
Michl G. see Neef G. 5071
Michos D. see Sarneski J. E. 1153
Michoud C. see Rawal V. H. 1695
Miebach T. see Xu L. 4461
Miesch M. see Franck-Neumann M. 2135
Mignani G. see Mercier C. 1433
Mignon L. see Rose-Munch F. 6323
Mihailovic M. Lj. see Rajkovic M. 7605
Mikami A. see Morimoto Y. 2909
Mikami K. see Terada M. 935
Mikami K. Terada M. Sawa E. and **Nakai T.** Asymmetric catalysis by chiral titanium perchlorate for carbonyl-ene cyclization 6571
Mikami S. see Hirao T. 1741
Mikata Y. see Okamura M. 1475
Mikina M. see Mikołajczyk M. 4189
Mikkilineni A. B. see Ueda Y. 3767
Mikołajczyk M. Mikina M. Graczyk P. Wieczorek M. W. and **Bujacz G.** Synthesis and conformation of 2-dimethoxyphosphoryl-1,3-diselenanes. The first evidence for Se-C-P anomeric interactions 4189
Mikołajczyk M. see Graczyk P. 7329
Milberg C. I. see Rao S. J. 3775
Milewska M. J. see Połonski T. 3255
Milhous W. K. see Posner G. H. 4235
Millan S. D. see Galatsis P. 7493
Millar R. W. see Golding P. 4985
Miller M. J. see Farouz F. 3305
Miller M. J. see Ma C. 2577
Millican T. A. see Alexander R. P. 3269
Milner P. H. see Berry P. D. 2683
Milovanovic A. see Rajkovic M. 7605
Milstead M. W. see Georg G. I. 3151
Milvitskaya J. see Sheradsky T. 133
Min S. J. see Cha J. S. 6903
Minale L. see D'auria M. V. 2149
Minami T. see Uemura M. 4565
Mincione E. see Bovicelli P. 3719
Minuti L. see Aben R. W. M. 6445
Miocque M. see Coleman A. W. 3997
Mion L. Honnoraty A.-M. Rousset A. et **Previero A.** Activité racémisante sur des esters d'acides α-aminés, d'un pyridoxal covalentiellement fixé sur support 7401
Mioskowski C. see Bosch H. 2237
Mioskowski C. see Stoller A. 495
Mirand C. see Lévy J. 5081
Mirza S. and **Harvey J.** Synthesis of shikimic acid and its phosphonate analogue via Knoevenagel condensation 4111
Mison P. see Eddaif A. 3709
Mitchell M. B. and **Wallbank P. J.** Coupling of heteroaryl chlorides with arylboronic acids in the presence of [1,4-bis-(diphenylphosphine)butane]palladium(II) dichloride 2273
Mitchell M. O. and **Dorroh P.** A facile synthesis of (±)-deoxypseudophrynaminol 7641
Mitchell R. H. and **Zhou P.** The synthesis and reliable estimate of aromaticity in a diatropic, bridged, oxa[17]annulene 6319
Mitkidou S. and **Stephanidou-Stephanatou J.** The isoxazole analogue of *ortho*-quinodimethane: generation and cycloaddition reactions 4603
Mitsunobu O. see Ohta K. 517
Miura K. see Matsumoto K. 6383
Miwatashi S. see Ishihara T. 1069
Miyachi S. see Ito Y. 4007
Miyairi S. Ichikawa T. and **Nambara T.** Preparation of Nε-(3-hydroxy-16-oxoestra-

1,3,5(10)-trien-17β-yl)-L-lysine, 16α-hydroxyestrone-lysine adduct, via Heyns rearrangement 1213
Miyaji K. Ohara Y. Takahashi Y. Tsuruda T. and **Arai K.** Synthesis of Corey lactone via highly stereoselective asymmetric Diels-Alder reaction 4557
Miyake M. Kirisawa M. and **Koga K.** Anionic cyclophanes as hosts for cationic aromatic guests 7295
Miyake R. see Uemura M. 4569
Miyamoto T. see Fujio M. 2929
Miyaoka T. see Konosu T. 7545
Miyasaka T. see Haraguchi K. 777
Miyasaka T. see Haraguchi K. 3391
Miyashita A. Kawashima T. Kaji S. Nomura K. and **Nohira H.** Cobalt-catalyzed aminocarbonylation of geminal dihaloalkanes. Formation of 2-aminoamide and malonamide derivatives 781
Miyashita A. see Chiba T. 4745
Miyata H. see Ohno M. 5093
Miyata H. see Ohno M. 5813
Miyata O. Shinada T. Ninomiya I. and **Naito T.** Asymmetric induction at two contiguous stereogenic centers by diastereoface differentiating nucleophilic addition reaction 3519
Miyaura N. see Ishiyama T. 6923
Miyazaki A. see Kotsuki H. 4503
Miyazaki M. see Fujioka H. 5367
Miyazaki S. see Shimizu H. 5571
Miyoshi M. Morisaki N. Tokiwa Y. Kobayashi H. Iwasaki S. Konishi M. and **Oki T.** Facile reductive rearrangement of dynemicin A to dynemicin H: the direct evidence for the *p*-phenylene diradical intermediate 6007
Miyoshi N. see Fujiwara S. 3503
Mizuchi M. see Fuji K. 7277
Mizugaki M. see Tanaka T. 3175
Mizuno T. Nishiguchi I. Okushi T. and **Hirashima T.** Facile synthesis of S-alkyl thiocarbamates through reaction of carbamoyl lithium with elemental sulfur 6867
Mizutani M. see Tanabe Y. 379
Mizuyabu L. see Davis J. M. 2205
Milnaric-Majerski K. Šafar-Cvitaš D. and **Majerski Z.** 2,4-Dimethylmethano-2,4-didehydroadamantane and its reactivity in relation to the unsubstituted analogue 1655
Mobele B. I. see Fujisawa T. 399
Mobele B. I. see Fujisawa T. 7055
Modric N. see Sokolic L. 7477
Moeller K. D. and **Hudson C. M.** Intramolecular anodic olefin coupling reactions: the use of allylsilanes 2307
Moffat M. R. see Brown R. F. C. 801
Moger G. Korecz L. and **Gál D.** On the role of free radicals in the photochemical interactions of free base and monocationic forms of haematoporphyrin with an unsaturated fatty acid 5167
Mohammed S. see Mellor J. M. 7107
Mohammed S. see Mellor J. M. 7111
Mohr P. Stereoselective synthesis of *syn*-1,3-diols 2219
Mohr P. Synthesis of (–)-*endo*-1,3-dimethyl-2,9-dioxa-bicyclo [3.3.1]nonane 2223
Moldvai I. see Szántay, Jr. C. 2529
Molina M. M. see Avalos M. 2513
Molina P. Alajarin M. and **Lopez-Leonardo C.** Iminophosphorane-mediated one-pot conversion of allyl azides into α-allylated nitriles by a consecutive Staudinger reaction/aza-Wittig reaction/3-aza-Claisen rearrangement process 4041
Molina P. Arques A. Alías A. and **Vinader M. V.** Iminophosphorane-mediated synthesis of functionalized indoles and 1,3-benzodiazepines 4401
Molina P. Alajarín M. and **Vidal A.** One-pot preparation of pyrido[2,3,4-*de*]quinazolines and benzo[*de*][1,6]-naphthyridines by a consecutive process involving an aza-Wittig/electrocyclic ring-closure/heterocumulene-mediated annelation or intramolecular Diels-Alder cycloaddiion sequence 5379
Molina P. Arques A. Cartagena I. and **Obón R.** The Staudinger reaction of *o*-azidobenzaldehyde with triphenylphosphine revisited: influence of the temperature on the nature of the reaction products 2521
Molina P. Arques A. and **Alías A.** Preparation of fused [1,3,5]benzotriazepines by a tandem aza Wittig/carbodiimide-mediated annelation reaction 2979
Molliex C. see Trigalo F. 3049
Moloney M. G. see Baldwin J. E. 1379
Momenteau M. see Maillard Ph. 4901
Monflier E. Pellegrini S. Mortreux A. and **Petit F.** Direct synthesis of lactones by double carbonylation of (2-bromoethyl)benzene catalyzed by $Sn(Co(CO)_4)_4$ 4703
Monneret C. see Gautier C. 3361
Monneret C. see Trinh M.-C. 1447
Montaufier M.-T. see Laszlo P. 1561
Monteagudo E. S. see Antonioletti R. 5373
Monteiro N. Balme G. and **Gore J.** Cyclisation of ω-unsaturated β-dicarbonylcompounds catalyzed by a palladium hydride species 1645
Monteiro N. see Bouyssi D. 1641
Montero J.-L. Criton M. Dewynter G.-F. and **Imbach J.-L.** Aminoacylation of nucleosides. Mitsunobu conditions versus chemo-enzymatic route 5357
Montero J.-L. see Aouf N. 6545
Montero V. A. Tomlinson L. Houk K. N. and **Diederich F.** Selective α, ω-dicarboxylic acid recognition in a chiral cleft shaped by the 9,9'-spirobifluorene unit 5309
Montevecchi P. C. see Grossi L. 5621
Montforts F.-P. Meier A. Haake G. and **Höper F.** A taylor made lipophilic chlorin for photodynamic tumor therapy 3481
Montforts F.-P. Scheurich G. Meier A. Haake G. and **Höper F.** An improved method for the preparation of formyldeuteroporphyrins-synthesis of biologically relevant porphyrins 3477
Montgomery D. see Coates B. 4199
Moody C. J. Sie E.-R. H. B. and **Kulagowski J. J.** Diazophosphonates in cyclic ether synthesis. Use of the intramolecular Wadsworth-Emmons reaction 6947
Moolenaar M. J. see Koot W.-J. 401
Moore H. W. see Xu S. 1129
Moore J. A. and **Kim J.-H.** A new anhydride analog 3449
Moore J. A. and **Schwab J. M.** Unprecendented observation of lactone hydrolysis by the $A_{A1}2$ mechanism 2331
Moore J. S. Weinstein E. J. and **Wu Z.** A convenient masking group for aryl iodides 2465
Moore R. E. see Carmeli S. 2593
Moores C. J. see Berry P. D. 2683
Moradpour A. see Gimbert Y. 4897

Moran E. J. and **Armstrong R. W.** Highly convergent approach to the synthesis of the epoxy-amide fragment of the azinomycins 3807
Morán J. R. see Crego M. 4185
Morat C. see Defrancq E. 5333
Mordi R. C. Walton J. C. Burton G. W. Hughes L. Ingold K. U. and **Lindsay D. A.** Exploratory study of β-carotene autoxidation 4203
Mordini A. see Ricci A. 1899
Moreau J. J. E. see Corriu R. J. P. 4121
Moreau P. Al Neirabeyeh M. Guillaumet G. and **Coudert G.** Synthesis of 1,3-dienes bearing both electron-donor and acceptor substituents 5525
Moreau S. see Fadli M. 2477
Moree W. J. van der Marel G. A. and **Liskamp R. M. J.** Peptides containing a sulfinamide or a sulfonamide moiety: new transition-state analogues 409
Morel S. see Barbe J. 6709
Moreno M. J. S. M. Sá e Melo M. L. and **Campos Neves A. S.** A novel oxidation of homoallylic alcohols under sonochemical conditions 3201
Morera E. see Ciattini P. G. 1579
Morera E. see Ciattini P. G. 6449
Morey J. see Saá J. M. 7313
Morgan L. A. see Comins D. L. 5919
Mori A. Nitta H. Kudo M. and **Inoue S.** Peptide-metal complex as an asymmetric catalyst. A catalyst. A catalytic enantioselective cyanohydrin synthesis 4333
Mori K. and **Harashima S.** Assignment of ($6R^*$,$10R^*$)-relative stereochemistry to the major component of the sex pheromone of the maritime pine scale, *Matsucoccus feytaudi* 5995
Mori M. Kaneta N. Isono N. and **Shibasaki M.** Reaction of metal free Bu_3Sn^- generated from $Bu_3SnSiMe_3$-R_4NX with an aryl or vinyl halide 6139
Mori M. see Hirao T. 1741
Mori S. see Fujii T. 97
Mori S. see Nitta M. 6727
Mori T. see Niwa H. 1329
Morikawa T. see Hanzawa Y. 4143
Morimoto T. see Murakami N. 1331
Morimoto Y. Mikami A. Kuwabe S. and **Shirahama H.** A synthesis of C1-C22 fragment of the immunosuppressant FK 506. Stereoselective construction of (*E*)-trisubstituted double bond (C19-C20) via ester-enolate Claisen rearrangement 2909
Morinaka Y. see Isaka M. 1339
Morisaki N. see Hayakawa Y. 213
Morisaki N. see Miyoshi M. 6007
Morishita H. see Shinozuka K. 6869
Morita H. see Itokawa H. 1803
Morita N. see Ito S. 773
Moriwake T. see Saito S. 663
Moriwake T. see Saito S. 667
Morken P. A. Lu H. Nakamra A. and **Burton D. J.** Convenient preparation and functionalization of 2-metallated pentafluoropropenes 4271
Morooka S. see Tanabe Y. 379
Morrell A. I. see Barton D. H. R. 311
Mortlock A. A. see Davies S. G. 4787
Mortlock A. A. see Davies S. G. 4791
Morton H. E. see Plata D. J. 3623
Mortreux A. see Carpentier J.-F. 4705
Mortreux A. see Mathé F. 3989
Mortreux A. see Monflier E. 4703
Morvant M. see Bergbreiter D. E. 2731
Morzycki J. W. see Back T. G. 6517
Mosher H. S. see Wang Y. 987
Moss R. A. Zdrojewski T. Krogh-Jespersen K. Włostowski M. and **Matro A.** Push-pull carbenes: alkoxycyanocarbenes 1925
Moss R. A. and **Zdrojewski T.** Fragmentation reactions of an oxafluorodiazirine 5667
Motherwell W. B. see Batey R. A. 6211
Motherwell W. B. see Batey R. A. 6649
Motherwell W. B. and **Shipman M.** Intramolecular cycloadditions of methylenecyclopropanes: a novel chelation effect 1103
Motomura T. Inoue K. Kobayashi K. and Aoyama Y. Transition-state stabilization via dynamic molecular recognition: a concerted acid–base bifunctional catalysis in ester hydrolysis 4757
Moufid N. and **Chapleur Y.** Radical cyclization of allyl propargyl ethers and acetals: application to the stereocontrolled acylation of carbohydrates 1799
Mouriño A. see Mascareñas J. L. 2813
Mouser J. K. M see Doxsee K. M. 1687
Moussamou-Missima J. M. see Boyer B. 1191
Mowlam R. W. see Alder R. W. 7755
Moyano A. see Belloch J. 4579
Moyano A. see Canas M. 6931
Moyano A. see Poch M. 6935
Moyano A. see Virgili M. 4583
Mrozik H. see Blizzard T. 2723
Mrozik H. see Blizzard T. A. 2437
Mrozik H. see Blizzard T. A. 2441
Mrozik H. see Shih T. L. 3663
Muci A. R. see Lee N. H. 5055
Mukai C. Kataoka O. and **Hanaoka M.** A highly diastereoselective aldol reaction of dicobalt hexacarbonyl propynal complex and uncomplexed propynal: a stereoselective divergent synthesis of (±)-PS-5 and (±)-6-*epi*-PS-5 7553
Mukaiyama S. see Toshima K. 4139
Mukaiyama S. see Toshima K. 6155
Mullah N. see Huang Y. 3900
Mullah N. N. see Huang Y. 899
Müllen K. see Alexander J. 735
Müllen K. see Bryce M. R. 6029
Müller C. E. Synthesis of 3-substituted 6-aminouracils 6539
Muller D. and **Fleury J.-P.** A new strategy for the synthesis of biflavonoids via arylboronic acids 2229
Müller H.-G. Güntherberg H. Drechsler H. Mauersberger S. Kortus K. and **Oehme G.** Stereoselectivity in the enzymic oxidation of racemic alkyl methylcarbinolsμa new approach to the *S*-enantiomers 2009
Muller P. M. see Lewis D. P. 6797
Munakata M. see Ochiai M. 4945
Munier H. see Sarfati R. S. 4699
Munoz A. see Lamandé L. 75
Munoz A. see Lamandé L. 763
Munro M. H. G. see Northcote P. T. 6411
Münster I. see Kusche A. 467
Muraglia E. see Baciocchi E. 2647
Murahashi S.-I. Saito T. Naota T. Kumobayashi H. and **Akutagawa S.** Osmium-catalyzed oxidation of β-lactams with peroxides 2145
Murahashi S.-I. Saito T. Naota T. Kumobayashi H. and **Akutagawa S.** Ruthenium-catalyzed oxidation of β-lactams with molecular oxygen and aldehydes 5991
Murai A. see Fukuzawa A. 5597
Murai Y. see Iimori T. 7273
Murakami M. Matsuda H. Makabe K. and **Yamaguchi K.**

Oscillariolide, a novel macrolide from a blue-green alga *Oscillatoria* sp. 2391
Murakami N. Imamura H. Morimoto T. Ueda T. Nagai S. Sakakibara J. and **Yamada N.** Selective preparation of *sn*-1 and *sn*-2 lysogalactolipids by enzymatic hydrolysis using lipase (from *Rhizopus arrhizus*) 1331
Murakami T. see Mandai T. 3399
Murakami T. see Mandai T. 7687
Murakami Y. see Oikawa H. 4533
Murakata C. and **Ogawa T.** Synthetic studies on glycophosphatidylinositol anchor: a highly efficient synthesis of glycobiosyl phosphatidylinositol through H-phosphonate approach 101
Murakata C. and **Ogawa T.** A total synthesis of GPI anchor of *Trypanosoma brucei* 671
Murashima T. see Suzuki H. 6591
Murata M. see Suzuki T. 4505
Murata M. and **Achiwa K.** Lipase-catalyzed enantioselective hydrolysis of *N*-acyloxymethyl groups in organic solvent: syntheses of chiral 5,5-disubstituted 1-methylbarbiturates 6763
Murata O. Shigemori H. Ishibashi M. Sugama K. Hayashi K. and **Kobayashi J.** Eudistomidins E and F, new β-carboline alkaloids from the Okinawan marine tunicate *Eudistoma glaucus* 3539
Murata S. see Mazaki Y. 4367
Murayama H. see Mandai T. 3397
Murofushi N. see Bhaskar K. V. 6203
Murofushi N. see Kim K.-W. 6715
Murphy J. A. see Lampard C. 4993
Musick C. see Rousselle D. 907
Musicki B. and **Widlanski T. S.** Synthesis of nucleoside sulfonates and sulfones 1267
Mussrabi M. see Zerr P. 1879
Muxworthy J. P. see Marples B. A. 533
Myers D. R. and **Jones, Jr. M.** Reduction of chlorodiadamantylmethane by single electron transfer 2203
Myers P. L. see Choi S. 3569
Myers P. L. see Wang Y. 1675
Myint S. H. see Cortes D. 6133
Myles D. C. Andrulis, III P. J. and **Whitesides G. M.** A transketolase-based synthesis of (+)-*exo*-brevicomin 4835
Nadler E. B. and **Rappoport Z.** Internal rotation in 2,2-dimesityl-1-trimethylsilylethenol 1233
N'Diaye I. see Guella G. 6415
Näf F. see Näf R. 753
Näf R. Velluz A. Decorzant R. and **Näf F.** Structure and synthesis of two novel ionone-type compounds identified in quince brandy *(Cydonia oblonga* Mil.) 753
Näf R. and **Velluz A.** Isolation of acyclic precursors of the marmelo oxides, the marmelo lactones and the quince oxepine from quince fruit (*Cydonia oblonga* Mil.) 4487
Nagai M. see Watanabe T. 2399
Nagai S. see Murakami N. 1331
Nagamatsu T. see Yamaguchi T. 1729
Nagano H. see Heissler D. 7587
Nagao Y. see Ochiai M. 4945
Nagaoka H. Baba A. and **Yamada Y.** Total synthesis of (±)-helminthosporal via fragmentation reaction 6741
Nagasaki T. see Arimura T. 5111
Nagasawa K. Zako Y. Ishihara H. and **Shimizu I.** Stereoselective synthesis of 1α-hydroxyvitamin D_3 A-ring synthons by palladium-catalyzed cyclization 4937
Nagashima H. see Matsuda I. 7431
Nageswar Y. V. D. see Rama Rao K. 6611
Nagumo S. see Matsukuma A. 7559
Nagumo S. see Yamamoto T. 515
Nagumo S. Suemune H. and **Sakai K.** Synthesis of Phoracantholide I based on stereospecific fragmentation reactions 5585
Nagy J. O. and **Bednarski M. D.** The chemical–enzymatic synthesis of a carbon glycoside of *N*-acetyl neuraminic acid 3953
Nahmed E. M. and **Jenner G.** Synthesis of anilides by reductive N-acylation of nitroarenes mediated by methyl formate 4917
Naiini A. A. see Ali H. M. 5489
Nair V. and **Purdy D. F.** Synthesis of a contiguous tricyclic purine system: entry to unique nucleosides 7503
Nairn M. R. see Brimble M. A. 4049
Naito T. see Miyata O. 3519
Nakada M. Nakamura S. Kobayashi S. and **Ohno M.** A novel synthesis of acylsilanes 4929
Nakagawa M. Furihata K. Hayakawa Y. and **Seto H.** Structure of viridenomycin 659
Nakagawa T. see Sakakibara T. 5809
Nakahira H. Ryu I. Han L. Kambe N. and **Sonoda N.** β-Trichlorotelluro ketones. Preparation and extremely facile dehydrotelluration leading to α-methylene ketones 229
Nakai T. see Mikami K. 6571
Nakai T. see Terada M. 935
Nakajima N. see Matsushima T. 5133
Nakajima S. see Ando T. 5107
Nakajima T. see Segi M. 7427
Nakamura A. Ashino T. and **Yamamoto M.** Structure determination of a very unusual peroxide from solitary ascidians. *Phallusia mammillata, Ascidia ahodori, Styela pricata* and *Halocynthia roretzi* 4355
Nakamura A. see Morken P. A. 4271
Nakamura E. see Isaka M. 1339
Nakamura H. see Takeda K. 4925
Nakamura K. Kawai Y. and Ohno A. Stereochemical control in microbial reduction-XIX. Effect of heat-treatment on the diastereoselectivity in the reduction with baker's yeast 2927
Nakamura K. Kondo S. Kawai Y. and **Ohno A.** Reduction by baker's yeast in benzene 7075
Nakamura K. see Kusumoto T. 939
Nakamura K. Takebe Y. Kitayama T. and **Ohno A.** Effect of solvent structure on enantioselectivity of lipase-catalyzed transesterification 4941
Nakamura M. see Cui B. 6135
Nakamura N. see Ishibashi H. 1725
Nakamura S. see Nakada M. 4929
Nakamura T. see Fukazawa Y. 3183
Nakanishi H. see Sasaki M. 6873
Nakanishi T. see Sekine M. 395
Nakano H. see Yamana K. 4721
Nakano H. see Yamana K. 6347
Nakano T. Ito Y. and **Ogawa T.** Total synthesis of a sulfated glucuronic acid containing glycoheptaosyl ceramide, a minor glycolipid isolated from human *cauda equina* tissue 1569
Nakano T. Maillo M. A. Usubillaga A. McPhail A. T. and **McPhail D. R.** Rearrangements of methyl 9β-hydroxy-11-oxo-(—)-kauran-19-oate to diterpene skeletons with new ring systems 7667

Nakao Y. see Fusetani N. 7073
Nakata M. Akazawa S. Kitamura S. and **Tatsuta K.** Enantiospecific total synthesis of (–)-allosamizoline, an aminocyclitol moiety of the insect chitinase inhibitor allosamidin 5363
Nakata M. Osumi T. Ueno A. Kimura T. Tamai T. and **Tatsuta K.** Total synthesis of herbimycin A. 6015
Nakata T. see Mandai T. 3397
Nakatani K. Arai K. Yamada K. and **Terashima S.** An expeditious synthesis of the open-chain (*E*)- and (*Z*)-dienediyne systems related to neocarzinostatine chromophore 3405
Nakatsukasa W. M. see Kirst H. A. 4839
Nakayama A. see Kusumoto T. 939
Nakayama J. see Ishii A. 4313
Nakayama M. see Takahashi Y. 1067
Nakayama N. see Aoki M. 4737
Namane A. see Sarfati R. S. 4699
Nambara T. see Miyairi S. 1213
Namy J.-L. see Lebrun A. 2355
Nanami H. see Izumi Y. 4741
Nanjundiah B. S. see Sonawane H. R. 1107
Naota T. see Murahashi S.-I. 2145
Naota T. see Murahashi S.-I. 5991
Narasimhan N. S. see Aidhen I. S. 2171
Narayana C. Reddy N. K. and **Kabalka G. W.** An efficient cleavage of lactones with boron triiodide-*N,N*-diethylaniline complex 6855
Nardelli M. see Jamart-Grégoire B. 3069
Nardi A. see Pini D. 5175
Narisano E. see Guanti G. 267
Narisano E. see Guanti G. 6939
Narisano E. see Guanti G. 6943
Nash R. J. see Choi S. 5517
Nasielski J. and **Rypens C.** 6-Nitro-2,3-dipiperidino-quinoxaline: its unexpected formation from 2-chloro-7-nitroquinoxaline 1311
Nasipuri D. see Saha A. 3213
Nasreddine M. see Szönyi S. 3047
Nasution M. P. Hussain R. A. Kinghorn A. D. Tosun A. Tosun F. Tanker M. and **Özden T.** 10α-Hydroxymethylsparteine, a new type of quinolizidine alkaloid from *Genista sessilifolia* 5915
Nativi C. Pallo G. and **Taddei M.** Acyclic stereoselection in the reaction of chiral allylsilanes with electrophiles 1583
Nativi C. Perrotta E. Ricci A. and **Taddei M.** Synthetic approaches towards 4-(silylmethyl)-2-azetidinones 2265
Natsume M. Yasui K. Kondo S. and **Marumo S.** The structures of four new pamamycin homologues isolated from *Streptomyces alboniger* 3087
Naylor A. see Armstrong S. K. 4171
Nayyar N. K. see Iqbal J. 5179
Nayyar N. K. Reddy M. M. and **Iqbal J.** Cobalt(II) chloride catalysed conversion of allylic alcohols to rearranged allylic amides 6965
Neamati N. see Priebe W. 2079
Neamati N. see Priebe W. 3313
Nebois P. and **Fillion H.** Reactions of 2-ethoxy-2-butenal N,N-dimethylhydrazone with heterocyclic quinones. Regiospecific formation of furoquinolines 1307
Needham J. Andersen R. J. and **Kelly M. T.** Oncorhyncolide, a novel metabolite of a bacterium isolated from seawater 315
Needham L. L. see Smith M. J. 991
Neef G. and **Michl G.** Non-Beckmann rearrangement of a steroidal ketoxime 5071
Neef G. and **Steinmeyer A.** Synthesis of 23-oxa-calcitriol derivatives 5073
Negishi A. see Akaba R. 109
Negishi E. Owczarczyk Z. R. and **Swanson D. R.** Strictly regio-controlled method for α-alkenylation of cyclic ketones via palladium-catalyzed cross coupling 4453
Negishi E. see Nguyen T. 5903
Negishi E. and **Owczarczyk Z.** Highly selective synthesis of vitamin A and its derivatives. Critical comparison of some known palladium–catalyzed alkenyl-alkenyl coupling reactions 6683
Negishi K. see Yamana K. 4721
Neil D. A. see Harvey D. F. 6311
Nelson S. G. see Boeckman, Jr. R. K. 2581
Nelson S. G. see Boeckman, Jr. R. K. 4091
Nelson S. G. see Boeckman, Jr. R. K. 4095
Nelson T. D. see Posner G. H. 5295
Németh S. see Besenyei G. 5833
Ner D. H. see Kumar A. 1901
Nesi R. Giomi D. Papaleo S. Turchi S. Dapporto P. and **Paoli P.** Reaction of 1-diethylaminopropyne with difunctionalized 4-nitroisoxazoles: a single step access to the novel isoxazolo[4,5-*c*]isoxazole system 6223
Nestler B. see Adam W. 1957
Neumann W. L. Rogic M. M. and **Dunn T. J.** The stereoselective synthesis of functionalized vicinal diamine systems by the double allylation reactions of 'protected' 1,2-bisimine precursors 5865
Newbold R. C. see Corey E. J. 5287
Newcomb M. Kumar M. U. Boivin J. Crépon E. and **Zard S. Z.** Cyclizations and intermolecular additions of alkoxycarbonyloxy radicals from *N*-hydroxypyridine-2-thione carbonates 45
Newcomb M. and **Esker J. L.** Facile production and cyclizations of amidyl radicals 1035
Newcomb M. and **Ha C.** Lewis acid activated and catalyzed cyclizations of aminyl radicals from *N*-hydroxypyridine-2-thione carbamates 6493
Newkome G. R. Hu Y. Saunders M. J. and **Fronczek F. R.** Silvanols: water-soluble calixarenes 1133
Newlander K. A. see Callahan J. F. 7203
Newman M. E. see Macor J. E. 3345
Nguyen T. and **Negishi E.** Carbon–carbon bond formation by the reaction of organolithiums with α-lithiated cyclic enol ethers. Stereoselective synthesis of β- and γ-hydroxy di- and tri-substituted alkenes 5903
Nicolaou K. C. see Wong C.-H. 4867
Nicotra F. Panza L. and **Russo G.** Epoxidation of exocyclic glycals: a new access to glycosides of ketosugars 4035
Niecke E. see Metternich H. J. 6537
Niedbala H. see Czuchajowski L. 7511
Nieger M. see Wamhoff H. 4473
Niel D. N. see Koehn F. E. 169
Niel G. Escale R. Vidal J. P. Rechencq E. Girard J. P. and **Rossi J. C.** Synthesis of a new pseudopeptidoleukotriene: the first LTD_4 analogue with potent agonist activity 2613
Nielsen P. H. see Anthoni U. 2825
Nielsen P. H. see Anthoni U. 7303
Nielsen P. H. see Hougaard L. 3577
Nimoto Y. see Fukuzawa S. 7691

Nikiforov T. T. and **Connolly B. A.** 5'-O-(4,4'-Dimethoxytrityl)-4-thiocyanatothymidine: a useful intermediate for the preparation of various 4-substituted thymidine analogues 2505
Nikiforov T. T. and **Connolly B. A.** The synthesis of oligodeoxynucleotides containing 4-thiothymidine residues 3851
Nikishin G. I. Elinson M. N. Lizunova T. L. and **Ugrak B. I.** Electrochemical transformation of malononitrile and ketones into 3,3-disubstituted-1,1,2,2-tetracyanocyclopropanes 2655
Nikishin G. I. Elinson M. N. and **Feducovich S. K.** Electrochemical transformation of alkylidenemalonates into 2-alkyl-3,3-dimethoxyalkane-1,1-dicarboxylates via rearrangement 799
Nikishin G. I. Klimova T. E. Ignatenko A. V. and **Kovalev I. P.** Codimerization of allylacetone with vinyl ketones catalyzed by $[RhCl(C_2H_4)_2]_2$-$SnCl_2$ 1077
Nilsson Y. see Campi E. M. 1093
Nimura Y. see Masuyama Y. 225
Ninol T. see Fujihara H. 4537
Ninomiya I. see Miyata O. 3519
Nishigaichi Y. Takuwa A. and **Jodai A.** Divergently stereocontrolled reaction of an allylic silane bearing an asymmetric ethereal carbon toward aldehydes 2383
Nishiguchi I. see Mizuno T. 6867
Nishijima Y. see Yamana K. 4721
Nishimoto H. see Akiyama T. 1335
Nishimoto M. see Harano K. 2387
Nishimura A. see Torii S. 4167
Nishimura J. see Okada Y. 2367
Nishimura M. see Kitagawa T. 3187
Nishimura Y. see Yasui S. 5601
Nishinaga T. see Komatsu K. 6767
Nishio K. see Yamana K. 4721
Nishio M. see Araki S. 6587
Nishioka T. see Yoshioka M. 1471
Nishitani K. and **Yamakawa K.** Asymmetric synthesis of α-methylene-γ-butyrolactones fused to carbocyclic rings via the Hosomi reaction of chiral allylsilanes 387
Nishitani T. see Sakakibara T. 5809
Nishiuchi M. see Kanemasa S. 6367
Nishiwaki E. see Sakai Y. 4363
Nishiyama S. Cheng J.-F. Tao X. L. and **Yamamura S.** Synthetic studies on novel sulfur-containing alkaloids, prianosins and discorhabdins: total synthesis of discorhabdin C 4151
Nishiyama S. see Harada N. 6757
Nishiyama S. see Watanabe T. 2399
Nishiyama S. Ueki S. Watanabe T. Yamamura S. Kato K. and **Takita T.** Syntheses of 2,2-bishydroxymethylcyclopropyl adenine and uracil, novel carbocyclic nucleosides 2141
Nishiyama S. Yamamura S. Hasegawa K. Sakoda M. and **Harada K.** Syntheses of *trans*- and *cis*-3-methoxy-4-methylthio-2-piperidinethiones previously proposed for raphanusanins; correct structures of raphanusanins 6753
Nishizawa H. see Kotsuki H. 4155
Nishizawa M. Imagawa H. Kan Y. and **Yamada H.** Total synthesis of cyclo-L-rhamnohexaose by a stereoselective thermal glycosylation 5551
Nishizawa M. Yamada H. Sano J. Itô S. Hayashi Y. Ikeda H. Chairul Shiro M. and **Tokuda H.** Structure of syzygiol: a skin-tumor promotion inhibitor 211
Nitta H. see Mori A. 4333
Nitta M. Iino Y. and **Mori S.** On the reaction of (vinylimino)phosphoranes and related compounds. A short new synthesis of 5-azaazulene derivatives 6727
Niwa H. Inagaki H. and **Yamada K.** Didemnilactone and neodidemnilactone, two new fatty acid metabolites possessing a 10-membered lactone from the tunicate *Didemnum moseleyi* (Herdman) 5127
Niwa H. Ito S. Hasegawa T. Wakamatsu K. Mori T. and **Yamada K.** Synthesis of (-)-noranisatin, an oxidation product of a neurotoxic sesquiterpenoid anisatin having a novel spiro β-lactone 1329
Niwa H. Ogawa T. Okamoto O. and **Yamada K.** Alkylation of nucleosides by dehydromonocrotaline, the putative toxic metabolite of the carcinogenic pyrrolizidine alkaloid monocrotaline 927
Niwa H. see Kigoshi H. 2427
Niwa H. see Kigoshi H. 4541
Niwa M. see Sun X.-R. 5797
Niwa N. see Saito S. 663
Niwayama S. see Paquette L. A. 5259
Niwayama S. see Paquette L. A. 6529
Niyazymbetov M. E. Konyushkin L. D. Niyazymbetova Z. I. Kalugin V. E. Litvinov V. P. and **Petrosyan V. A.** Cathodic isomerization of epoxysulfides - sulfoxides and -sulfones 1099
Niyazymbetova Z. I. see Niyazymbetov M. E. 1099
Nkiliza J. Vercauteren J. and **Léger J.-M.** 19-Hydroxy-tubotaiwine: total synthesis. Assignment of absolute configuration to a natural isomer 1787
Noble S. A. see Jones M. F. 247
Noda K. see Irie R. 1055
Node M. see Fuji K. 7281
Nohara T. see Cui B. 6135
Noheda P. see Farina F. 1109
Nohira H. see Chiba T. 4745
Nohira H. see Miyashita A. 781
Nokami J. Ohkura M. Dan-oh Y. and **Sakamoto Y.** Facile synthesis of (+)-brefeldin A. 2409
Nolen E. G. Allocco A. Broody M. and **Zuppa A.** Diastereoselectivity in the synthesis of Mannich bases 73
Nomura K. see Miyashita A. 781
Norbury A. see Pelter A. 6239
Norbury A. see Smith K. 6243
Norman A. W. see Dauben W. G. 4643
Normant J.-F. see Marek I. 5969
Normant J.-F. see Marek I. 5973
Normant J.-F. see Courtemanche G. 5317
Normant J.-F. see Marek I. 5329
Normant J.-F. see Marek I. 6337
Noro T. see Fujisawa T. 7563
Norte M. see Öztunç A. 4377
Northcote P. T. Blunt J. W. and **Munro M. H. G.** Pateamine: a potent cytotoxin from the New Zealand marine sponge, *Mycale* sp. 6411
Nouguier R. Gras J.-L. Giraud B. and **Virgili A.** Methyl 3,4-*O*-methylene-β-D-arabinoside as a new chiral template for the asymmetric Diels–Alder reaction 5529
Nour M. A. see Elmorsy S. S. 1825
Nour M. A. see Elmorsy S. S. 5421
Novák J. see Novák M. 4405
Novák L. see Poppe L. 2643
Novák M. Novák J. and **Salemink C. A.** New type of intramolecular imino-ene cyclization during pyrolysis of (−)-cocaine 4405
Novelli R. see Dolle R. E. 4587
Noyori R. see Kitamura M. 4163
Nozaki H. see Otera J. 2405
Nozaki Y. see Toshima K. 6887
Nozoe S. see Endo Y. 3083

Nozoe S. see Endo Y. 5555
Nozoe T. see Shono T. 1051
Nsunda K. M. see Cornélis A. 1423
Nsunda K. M. see Cornélis A. 2901
Nsunda K. M. see Cornélis A. 2903
Nucci L. see Bicchierini N. 4039
Nunota K. see Yamana K. 6347
Nuss J. M. Levine B. H. Rennels R. A. and **Heravi M. M.** An approach to the A ring of neocarzinostatin chromophore via sequential carbometalation/anion capture 5243
Nutt R. F. see Spanevello R. A. 4675
Nyce P. L. see McDonald I. A. 887
Nyström J.-E. Vågberg J. O. and **Söderberg B. C.** Palladium-catalyzed regioselective allylation of 6,6-dimethylfulvene: a new fulvene synthesis 5247

O'Brien D. G. see Cameron D. W. 6179
O'Connell M. J. see Coxon J. M. 7115
O'Driscoll M. see Alexander R. P. 3269
O'Malley S. and **Kodadek T.** Asymmetric cyclopropanation of alkenes catalyzed by a 'chiral wall' porphyrin 2445
O'Neill F. P. see Alexander R. P. 3269
O-Yang C. see Barth F. 5873
Oak O. Z. see Carless H. A. J. 1671
Obón R. see Molina P. 2521
Obuchi Y. see Akaba R. 109
Ocampo R. see Bauder C. 2537
Occolowitz J. L. see Kirst H. A. 4839
Ochi M. see Kotsuki H. 4159
Ochi M. see Kotsuki H. 4503
Ochiai M. Iwaki S. Nagao Y. Kitagawa S. and **Munakata M.** On the mechanism of stereoisomerization of methyl groups of 1,3-diaxial [*cis*-3-(benzyloxy)cyclohexyl]chlorodi methylstannane 4945
Ochiai M. Oshima K. Ito T. Masaki Y. and **Shiro M.** Synthesis and structure of 1-(diacetoxyiodo)-2,4,6-tri-*tert*-butylbenzene and its analogues 1327
Ochiai M. Oshima K. and **Masaki Y.** Nucleophilic vinylic substitutions of (Z)-(β-(phenylsulfonyl)alkenyl) iodonium tetrafluoroborates with tetrabutylammonium halides: retention of configuration 7711
Ochiai M. Uemura K. Oshima K. Masaki Y. Kunishima M. and **Tani S.** Michael type addition of halides to alkynyl(phenyl)-iodonium tetrafluoroborates. Stereoselective synthesis of (Z)-β-halovinyl–(phenyl)iodonium halides 4753
Oda H. see Uemura M. 4565
Oda M. see Kawase T. 3499
Oda M. see Okada K. 6363
Odriozola J. M. see Palomo C. 3105
Oehler L. M. see Hill T. G. 6823
Oehlschlager A. C. see Dodd D. S. 3643
Oehme G. see Müller H.-G. 2009
Ogasawara K. see Takano S. 2797
Ogasawara K. see Takano S. 3527
Ogata K. see Fujita M. 1463
Ogata K. see Imamoto T. 2787
Ogata K. see Tominaga Y. 5987
Ogawa M. see Mandai T. 3397
Ogawa S. Sato S. Erata T. and **Furuakawa N.** Reactions of triaryl selenonium salts and diaryl selenoxides with phenyllithium: first detection of tetraaryl selenuranes [10-Se-4(C4)] by ^{77}Se, ^{1}H, and ^{13}C NMR 3179
Ogawa S. see Chida N. 1063
Ogawa S. see Chida N. 4525
Ogawa T. see Murakata C. 101
Ogawa T. see Murakata C. 671
Ogawa T. see Nakano T. 1569
Ogawa T. see Niwa H. 927
Ogawa Y. see Yokoyama Y. 1479
Ogiku T. see Takahashi M. 6919
Ogilvie W. see Guindon Y. 5453
Ogino Y. Chen H. Kwong H.-L. and **Sharpless K. B.** On the timing of hydrolysis/reoxidation in the osmium-catalyzed asymmetric dihydroxylation of olefins using potassium ferricyanide as the reoxidant 3965
Ogino Y. Chen H. Manoury E. Shibata T. Beller M. Lübben D. and **Sharpless K. B.** A ligand structure-enantioselectivity relationship for the osmium-catalyzed asymmetric dihydroxylation of olefins 5761
Ogiyama M. see Takahashi K. 3507
Ogoshi H. see Ema T. 4529
Ogura K. see Fujita M. 1463
Ogura K. see Fujita M. 5589
Ogura K. see Fujita M. 6355
Ogura K. see Ohnuma S. 241
Oh C. H. see Posner G. H. 4235
Oh C. H. see Posner G. H. 6489
Oh T. see Devine P. N. 883
Oh T. Wrobel Z. and **Rubenstein S. M.** [2,3]-Wittig rearrangement of allylic glycolate esters via boron and tin enolates 4647
Ohara Y. see Miyaji K. 4557
Ohashi Y. see Yamana K. 6347
Ohba S. see Harada N. 6757
Ohba S. see Kosemura S. 3543
Ohishi H. see Harusawa S. 1203
Ohkuma T. see Kitamura M. 4163
Ohkura M. see Nokami J. 2409
Ohmizu H. see Takahashi M. 6919
Ohno A. see Nakamura K. 2927
Ohno A. see Nakamura K. 4941
Ohno A. see Nakamura K. 7075
Ohno A. see Okamura M. 1475
Ohno A. see Yasui S. 1047
Ohno A. see Yasui S. 5601
Ohno M. Komatsu M. Miyata H. and **Ohshiro Y.** Novel generation of azomethine ylide from *N*-(a-silylbenzyl)amide by silicon shift: an equivalent of nitrile ylide 5813
Ohno M. Miyata H. Komatsu M. and **Ohshiro Y.** Thermal rearrangement of *N*-silylmethylated azadienes to *N*-silylated 2-pyrrolines 5093
Ohno M. see Koide K. 7065
Ohno M. see Nakada M. 4929
Ohno M. see Yu Y. 4965
Ohnuma S. Koyama T. and **Ogura K.** Enzymatic synthesis of glycinoprenols 241
Ohshima K. see Akaba R. 109
Ohshiro Y. see Hirao T. 1741
Ohshiro Y. see Ohno M. 5093
Ohshiro Y. see Ohno M. 5813
Ohta H. see Kakeya H. 1343
Ohta H. see Matsumoto K. 4729
Ohta H. see Sugai T. 7063
Ohta K. see Toshima K. 391
Ohta K. and **Mitsunobu O.** Formal total synthesis of grahamimycin A_1 517
Ohta T. see Endo Y. 3083
Ohta T. see Endo Y. 5555
Ohtake H. see Higuchi T. 7435
Ohtake T. see Toshima K. 391
Ohtani I. see Kusumi T. 2923
Ohtani I. see Kusumi T. 2939
Ohtsuka M. see Chida N. 4525
Ohtsuka T. see Aoki M. 217
Ohtsuka T. see Aoki M. 221
Ohtsuka Y. see Iimori T. 1209
Ohtsuka Y. see Iimori T. 7273
Ohuchi S. see Iimori T. 7273
Ohya N. see Aimi N. 4949
Oi R. and **Sharpless K. B.** Stereospecific conversion of chiral 1,2-cyclic sulfates to chiral imidazolines 999
Oi R. and **Sharpless K. B.** Facile synthesis of enantiopure *trans*-2,3-diphenyl-1,4-diazabicyclo[2.2.2]octane 4853
Oida S. see Konosu T. 7545

Oikawa H. Murakami Y. and **Ichihara A.** New plausible precursors of chaetoglobosin A accumulated by treatment of *Chaetomium subaffine* with cytochrome P-450 inhibitors 4533
Oishi T. see Iimori T. 1209
Oishi T. see Iimori T. 7273
Ojima F. see Kawagishi H. 4561
Ojima J. see Yamamoto G. 5129
Oka H. see Shono T. 6567
Okada K. Inokawa H. and **Oda M.** Optically active triarylboranes: synthesis and stereoisomerization of ethano-bridged triarylboranes 6363
Okada K. see Fujiwara S. 3503
Okada Y. Sugiyama K. Kurahayashi M. and **Nishimura J.** Synthesis of three-bridged cyclophanes via *meta*- and *ortho*-cyclophane 2367
Okadal T. see Uenishi J. 3381
Okamoto K. see Kitagawa T. 3187
Okamoto M. see Soai K. 95
Okamoto O. see Niwa H. 927
Okamoto S. see Ito T. 371
Okamoto S. Tsujiyama H. Yoshino T. and **Sato F.** Synthesis of optically active γ-trimethylsilyl-β,γ-epoxy tertiary alcohols by the diastereoselective addition reaction of β-trimethylsilyl-α,β-epoxyketones with Grignard reagents 5789
Okamoto S. Yoshino T. Tsujiyama H. and **Sato F.** Highly efficient and general method for synthesis of tertiary allylic alcohols in a chiral form. Synthesis of arbaprostil 5793
Okamoto Y. see Shi M. 6899
Okamura H. Kuroda S. Ikegami S. Ito Y. Katsuki T. and **Yamaguchi M.** A formal total synthesis of aplysiatoxin 5141
Okamura H. Kuroda S. Tomita K. Ikegami S. Sugimoto Y. Sakaguchi S. Katsuki T. and **Yamaguchi M.** Synthesis of aplysiatoxin: stereoselective synthesis of key fragments 5137
Okamura M. Kashiwagi T. Mikata Y. Maruyama T. and **Ohno A.** Stereospecificity observed in base-catalyzed electrochemical oxidation 1475
Okano H. see Yamamoto Y. 4749
Okazaki R. see Tokitoh N. 2049
Okazaki R. see Tokitoh N. 6143
Okazaki R. see Tokitoh N. 6151
Okazaki R. see Tokitoh N. 6877
Okazaki R. Shibata K. and **Tokitoh N.** Abnormal reactions of sterically bulky organometallics ArM (Ar=2,4,6-tri-*t*-butylphenyl, M=Li or Mg Br) with lead dichloride 6601
Oki K. see Kondo T. 6375
Oki T. see Miyoshi M. 6007
Oku A. see Harada T. 1219
Oku A. see Harada T. 1573
Okudo M. see Soai K. 95
Okumoto H. see Torii S. 237
Okumoto H. see Torii S. 4167
Okushi T. see Mizuno T. 6867
Olivo H. F. see Hudlicky T. 6077
Ollis W. D. see Bailey M. 2687
Ollmann, Jr. R. R. see Dauben W. G. 4643
Olmstead M. M. see Kim H. R. 4259
Olmstead M. M. see Tahir S. H. 335
Olsen C. E. see Høeg-Jensen T. 7617
Olsen C. E. see Stærkær G. 5389
Olsen R. J. Photocyclization of benzalcycloalkanone oximes. A photoannulation route to quinolines 5235
Olsen R. K. and **Feng X.** Synthesis of oxazolidine derivatives of β-[3-(aryloxy)aryl]-α-amino acids by application of the Diels-Alder reaction 5721
Olson A. S. Seitz W. J. and **Hossain M. M.** Transition metal catalysis of the Diels-Alder reaction 5299
Omura S. see Smith, III A. B. 841
Omura S. see Smith, III A. B. 1627
Onaka M. see Izumi Y. 4741
Onda K. see Satoh T. 5599
Ono H. see Harada N. 6757
Ono H. see Harada N. 6761
Ono K. see Harano K. 2387
Onorato M. E. see García-Granados A. 5383
Ontoria J. M. see Palomo C. 3105
Oppolzer W. Kingma A. J. and **Pillai S. K.** Enantiomerically pure isoxazolines via addition of nitrile oxides to chiral *N*-acryloyl toluene-2,α-sultams 4893
Oppolzer W. Starkemann C. Rodriguez I. and **Bernardinelli G.** Enantiomerically pure, crystalline 'anti'-aldols from *N*-acylbornanesultams: aldolization and structure of intermediate *t*-butyldimethylsilyl-*N,O*-ketene acetal 61
Oppolzer W. and **Radinov R. N.** Enantioselective addition of (*Z*)- and (*E*)-alkenylzinc bromides to aldehydes: asymmetric synthesis of *sec*-allylalcohols 5777
Orduna J. see Dondoni A. 3247
Orduna J. see Garín J. 3263
Orfanopoulos M. Elemes Y. and **Stratakis M.** Corrigendum 2
Orfanopoulos M. see Elemes Y. 2667
Orfanopoulos M. see Stratakis M. 863
Orfanopoulos M. and **Stratakis M.** Solvent effects on the side selectivity of singlet oxygen with α,β unsaturated esters. New evidence for a perepoxide intermediate 7321
Orita H. see Shimizu M. 2053
Orito K. Yorita K. and **Suginome H.** A new stereo- and regioselective synthesis of (±)-sesamin involving a β-scission of alkoxyl radicals as the key step 5999
Orito T. see Kadota S. 1733
Orlek B. S. Wadsworth H. Wyman P. and **Hadley M. S.** Diastereoselective routes to *endo* and *exo* ethyl 1-azabicyclo-[2.2.1]hept-3-yl carboxylates 1241
Orlek B. S. Wadsworth H. Wyman P. and **King F. D.** Synthesis of ethyl 1-azabicyclo[2.2.1]hept-4-yl carboxylate 1245
Orlek B. S. and **Stemp G.** Stereoselective synthesis of protected amines and diamines from alkenes using N,N-dichloro-*t*-butylcarbamate 4045
Orsini F. see Jommi G. 6969
Ortaggi G. see Bovicelli P. 3719
Ortar G. see Ciattini P. G. 1579
Ortar G. see Ciattini P. G. 6449
Ortholand J.-Y. see Chapel N. 1441
Ortuno J.-C. and **Langlois Y.** Stereoselective synthesis of indole alkaloid cuanzine 4491
Ortuño R. M. see Ariza J. 1979
Osada H. see Koshino H. 7707
Osaki H. see Harusawa S. 1203
Osawa M. see Kusumoto T. 939
Oshiki T. Hikosaka T. and **Imamoto T.** Stereospecific reduction of menthyloxy-phosphine-boranes with one-electron reducing agents 3371
Oshima K. see Fujii H. 6147
Oshima K. see Matsumoto K. 4545
Oshima K. see Matsumoto K. 6383
Oshima K. see Ochiai M. 1327
Oshima K. see Ochiai M. 4753
Oshima K. see Ochiai M. 7711
Oshima K. see Taniguchi M. 2783
Osifo K. I. see Dolle R. E. 5029
Osinov B. see Smoliakova I. P. 2601
Osío Barcina J. see García Martínez A. 5931
Osumi K. see Sugimura H. 1809
Osumi K. see Sugimura H. 1813
Osumi T. see Nakata M. 6015
Otaka A. Koide T. Shide A. and **Fujii N.** Application of

dimethylsulphoxide(DMSO)/-trifluoroacetic acid(TFA) oxidation to the synthesis of cystine-containing peptide 1223
Otaka A. see Fujii N. 4969
Otera J. Wakahara Y. Kamei H. Sato T. Nozaki H. and **Fukuzumi S.** Activation of ketene silyl acetals by 10-methylacridinium perchlorate: a novel catalysis in Mukaiyama reaction 2405
Otogawa H. see Kamata M. 7421
Otsu T. see Fujio M. 1805
Otsubo K. see Inanaga J. 6557
Ott W. R. see Cane D. E. 5457
Ottenheijm H. C. J. see Jetten M. 6025
Otto C. see Medio-Simon M. 1771
Otvös, Jr. L. see Hollósi M. 1531
Otvos, Jr. L. see Urge L. 3445
Ouazzani J. Arsénlyadis S. Alvarez-Manzaneda R. Cabrera E. and **Ourisson G.** Microbial allylic hydroxylation of some octalone derivatives 647
Ouazzani J. Arsénlyadis S. Alvarez-Manzaneda R. Rumbero A. and **Ourisson G.** Microbial hydroxylations of further octalin derivatives 1983
Ouazzani J. see Arséniyadis S. 3573
Oughedani R. see Barbe J. 6709
Ourisson G. see Arséniyadis S. 3573
Ourisson G. see Ouazzani J. 647
Ourisson G. see Ouazzani J. 1983
Overman L. E. see Flann C. J. 6993
Overman L. E. see Johnson T. O. 7361
Owczarczyk Z. R. see Negishi E. 6683
Owczarczyk Z. R. see Negishi E. 4453
Owen D. A. see Stephenson G. R. 1291
Oya S. see Lee J. 5899
Ozaki S. see Akiyama T. 1321
Ozaki S. see Akiyama T. 1335
Ozaki S. see Akiyama T. 5593
Ozawa M. see Shimizu H. 4359
Özden T. see Nasution M. P. 5915
Öztunç A. Imre S. Wagner H. Norte M. Fernández J. J. and **González R.** A new and highly oxygenated bromoallene from a marine source 4377

Paaren H. E. see Perlman K. L. 7663
Pabst A. Barron D. Sémon E. and **Schreier P.** Isolation of a novel linalool disaccharide glycoside from raspberry fruit 4885
Padwa A. Austin D. J. Chiacchio U. Kassir J. M. Rescifina A. and **Xu S. L.** Rearrangement of *o*-alkynyl substituted α-diazocetophenones. Conversion to β-naphthols via arylketene intermediates 5923
Padwa A. Austin D. J. and **Xu S. L.** Rhodium(II) catalyzed cyclizations of α-diazo substituted alkynes. A new mode of reaction 4103
Padwa A. Gareau Y. and **Xu S. L.** A study of the rearrangement chemistry of alkynyl carbenes 983
Padwa A. and **Ishida M.** Silver tetrafluoroborate induced reaction of trimethylsilyl enol ethers with 2,3-diiodo-1-(phenylsulfonyl)-1-propene as a method for preparing substituted furans 5673
Paganelli S. Schlonato A. and **Botteghi C.** Rhodium-catalyzed Michael additions of activated nitriles to α,β-unsaturated esters 2807
Page S. W. see Smith M. J. 991
Pagni R. M. see Bains S. 5663
Pagni R. M. see Hondrogiannis G. 2303
Pagni R. M. see Sigman M. E. 5737
Païs M. see Mahmood K. 6117
Pak C. S. Kim S. K. and **Lee H. K.** An efficient method for hydroazulenone from bicyclo[3.3.0]octanone via two carbon annulation 6011
Palacios J. C. see Avalos M. 2513
Pale P. see Grandjean D. 3043
Paleta O. Budková Z. Kvicala J. and **Timpe H.-J.** Experimental evidence for a free-radical chain mechanism in the photo-initiated addition of alcohols 251
Pallo G. see Nativi C. 1583
Pallavicini M. see Cesarotti E. 4381
Palmieri G. see Bartoli G. 7091
Paloma L. G. see D'auria M. V. 2149
Palomo C. Aizpurua J. M. Aurrekoetxea N. and **López M. C.** Regiocontrolled synthesis of β-trimethylsilyloxy carbonyl compounds through an aldol–Grignard elaboration sequence 2525
Palomo C. Cossío F. P. Cuevas C. Asymmetric synthesis of monocyclic β-lactams: application of imines derived from chiral N-protected α-amino aldehydes in the Staudinger reaction 3109
Palomo C. Cossío F. P. Ontoria J. M. and **Odriozola J. M.** Preparation of chiral 3-unsubstituted β-lactams from 3-hydroxy β-lactams by using the alkoxyketene-imine cycloaddition reaction as an approach to the azetidinone ring: a formal synthesis of the carbapenem antibiotic (+)-PS-5 3105
Palomo C. Cossío F. P. Rubiales G. and **Aparicio D.** A β-lactam approach to γ-amino-β-keto acid derivatives 3115
Pan D. see Evilia R. F. 871
Pan G. see Burke S. D. 857
Pan J. Hanna I. and **Lallemand J.-Y.** Synthesis of chiral cyclobutane derivatives by tetrahydropyran ring-opening 7543
Pan X.-F. see Zhou W.-S. 6745
Pancrazi A. Kerragoret J. Khuong-Huu Q. Stereospecific synthesis of a 2β-H-indoloquinolizidinone: key intermediate in indole alkaloids synthesis 4303
Pancrazi A. Kervagoret J. and **Khuong-Huu Q.** Carbohydrates in total synthesis of (-)-antirhine 4483
Pandey G. Reddy P. Y. and **Bhalerao U. T.** Regiocontrolled SET promoted photocyclisation of 2-alkyl-1-piperidine and pyrrolidine propanols: stereoselective synthesis of *cis*-α,α'-dialkyl piperidines and pyrrolidines via tetrahydro-1,3-oxazines 5147
Panek J. S. see Cirillo P. F. 457
Panek J. S. see Sparks M. A. 4085
Pannunzio T. see Cormier J. F. 7161
Pansegrau P. D. Anderson K. S. Widlanski T. Ream J. E. Sammons R. D. Sikorski J. A. and **Knowles J. R.** Synthesis and evaluation of two new inhibitors of EPSP synthase 2589
Panunzio M. see Cainelli G. 121
Panunzio M. see Cainelli G. 2967
Panza L. see Nicotra F. 4035
Paoli P. see Nesi R. 6223
Papaleo S. see Nesi R. 6223
Pappalardo S. Caccamese S. and **Giunta L.** Stereoselective synthesis and optical resolution of chiral calix[4]arenes with mixed ligating functionalities 7747
Paquet F. see Petit J.-M. 6125
Paquette L. A. Lagerwall D. R. King J. L. Niwayama S. and **Skerlj R.** Electrophilic chemistry of dodecahedrane. Direct entry to epoxy-

dodecahedrone and the first tethered derivative 5259
Paquette L. A. Lagerwall D. R. King J. L. and Niwayama S. The dodecahedryl anion 6529
Paquette L. A. see Elmore S. W. 319
Paquette L. A. see Elmore S. W. 6679
Paradisi M. P. see Zecchini G. P. 4375
Paradisi M. P. see Zecchini G. P. 6779
Paredes M. C. see Farina F. 1109
Paris J. M. see Commerçon A. 4905
Park B. S. see Wagner P. J. 165
Park C. Y. Kim B. M. and Sharpless K. B. Catalytic osmylation of conjugated dienes: a one-pot stereoselective synthesis of polyols 1003
Park J. C. see Roush W. R. 6285
Park J. H. see Kim S. 2043
Park J. H. see Kim S. 3395
Park Y. H. see Kim S. 3099
Parmee E. R. see Karim S. 2269
Parnell T. see Ayer S. W. 6301
Parrain J.-L. see Beaudet I. 6333
Parrot-Lopez H. see Coleman A. W. 3997
Parrot-Lopez H. see Zhang P. 2769
Partyka R. A. see Ueda Y. 3767
Paschal J. W. see Kirst H. A. 4839
Pasquato L. De Lucchi O. and Krotz L. Bis(arylsulphonyl)-acetylenes 2177
Patchett A. A. see Rivero R. A. 5263
Pátek M. and Lebl M. Safety-catch anchoring linkage for synthesis of peptide amides by Boc/Fmoc strategy 3891
Paterson I. Hulme A. N. and Wallace D. J. Stereocontrolled, two-directional, chain synthesis using the boron aldol reaction and double Ireland–Claisen rearrangement 7601
Paterson I. Lister M. A. and Ryan G. R. Asymmetric aldol reactions using chiral boron reagents: application to the synthesis of tirandamycin A 1749
Pathirana C. Dwight R. Jensen P. R. Fenical W. Delgado A. Brinen L. S. and Clardy J. Structure and synthesis of a new butanolide from a marine actinomycete 7001
Pathirana C. Tapiolas D. Jensen P. R. Dwight R. and Fenical W. Structure determination of maduralide: a new 24-membered ring macrolide glycoside produced by a marine bacterium (*Actinomycetales*) 2323
Patin H. see Larpent C. 2615
Patney H. K. Sulfonated charcoal, a mild and efficient reagent for the preparation of cyclic acetals, dithioacetals and benzodioxepines 413
Patney H. K. A rapid mild and efficient method of thioacetalization using anhydrous iron(III) chloride dispersed on silica gel 2259
Patois C. and Savignac P. 1,3-Dimethyl 2-oxo 1,3,2-diazaphospholidine precursor of (*Z*) α,β-unsaturated esters 1317
Patonay T. see Adam W. 1041
Patra R. Maiti S. B. Chatterjee A. and Chakravarty A. K. Carbanion addition to acetylenes: an efficient stereoselective route to α-methylene-γ-lactams 1363
Pattenden G. see Ellwood C. W. 1591
Pattenden G. see Harrowven D. C. 243
Pattenden G. and Reynolds S. J. A new synthetic route to (±)-thienamycin via 4-*exo* trigonal cyclisation of carbamoyl cobalt intermediates 259
Pattenden G. and Shuker A. J. Synthetic studies towards leinamycin. A concise synthesis of the spiro-fused 1,3-dioxo-1,2-dithiolane moiety 6625
Patterson G. M. L. see Carmeli S. 2593
Patuwathavithana S. T. see Bissell R. A. 425
Paugam R. and Wartski L. Stereoselective synthesis of *cis* ring fused *endo* or *exo* octahydropyrindin-4 ones by imino-Diels-Alder reaction 491
Paul N. C. see Golding P. 4985
Pauling T. M. see Khanna R. K. 3759
Paulsen H. see Peters S. 5067
Paulsen H. und Höffgen E. C. Synthese der heptose- und Kdo-haltigen Trisaccharidkette der inneren Core-Region von Lipopolysacchariden in immunogener Form 2747
Pautet F. and Daudon M. Reactions on solid supports: oxidation of sulfides to sulfoxides catalyzed by metalloporphyrins supported on silicagel 1457
Paventi M. and Hay A. S. Facile preparation of deoxybenzoins via a novel synthesis of enamines 1617
Pavia A. A. see Boyer B. 1191
Pavia A. A. see Pucci B. 1437
Paz M. M. see Rutjes F. P. J. T. 6629
Pazenok S. V. Kovtyukh I. P. and Yagupolskii L. M. A new method of synthesis of conjugated systems with tris(fluoromethine) chain 4595
Peach J. M. see Wang Y. 1675
Pearce D. W. see Bhaskar K. V. 6203
Pearce L. see Choi S. 3569
Pearce L. see Elliott R. P. 6227
Pearson N. D. see Curtis N. R. 537
Pearson W. H. and Hines J. V. A synthesis of (+)-7-epiaustraline and (–)-7-epialexine 5513
Peat A. J. see Gung B. W. 453
Pechacek J. T. see Chamberlain T. 1707
Pedroso E. see Eritja R. 1511
Pedroso E. see Robles J. 4389
Pegg S. J. see Crombie L. 7337
Pegram J. J. and Anderson C. B. (*E,E*)-1-Methoxy-4-trimethylsilyl-1,3-butadiene: a diene for the Diels–Alder synthesis of methoxy-substituted allyl silanes 2197
Pehk T. I. see Bobylyova A. A. 6429
Pellegrini S. see Monflier E. 4703
Pelletier S. W. see Jiang Q. 5283
Pellissier H. see Gras J.-L. 7043
Pelter A. see Elmorsy S. S. 1825
Pelter A. see Elmorsy S. S. 4175
Pelter A. see Elmorsy S. S. 5421
Pelter A. see Smith K. 6243
Pelter A. Smith K. Buss D. and Norbury A. Hindered organoboron groups in organic synthesis—XV. Preparation and properties of di(2,4,6-triisopropyl-phenyl)borane 6239
Peña B. see Bueno A. B. 3191
Peñas L. see Bueno A. B. 3191
Peng M.-L. see Chou T. 3551
Peng X. see Chamberlain T. 1707
Péoc'h D. Meyer A. Imbach J.-L. and Rayner B. Efficient chemical synthesis of oligodeoxynucleotides containing a true abasic site 207
Pereira M. M. see Rocha Gonsalves A. M. d'A. 1355
Pérez R. see Alvarez E. 2241
Pérez-Sestelo J. see Mascareñas J. L. 2813
Perez-Soler R. see Priebe W. 3313
Perfetti P. see Martres P. 765
Pergola F. see Bicchierini N. 4039
Pericàs M. A. see Belloch J. 4579
Pericàs M. A. see Canas M. 6931
Pericàs M. A. see Poch M. 6935
Pericàs M. A. see Virgili M. 4583
Perich J. W. Le Nguyen D. and Reynolds E. C. The facile synthesis of Ala-Glu-Tyr(*P*)-Ser-Ala by 'global' di-*t*-butyl *N,N*-diethylphosphoramidite

'phosphite-triester' phosphorylation of a resinbound peptide 4033
Perlman K. L. Swenson R. E. Paaren H. E. Schnoes H. K. and **DeLuca H. F.** Novel synthesis of 19-nor-vitamin D compounds 7663
Perrin H. M. White W. R. and **Platz M. S.** Pyridine capture of phenyltrimethylsiloxy carbene, a laser flash photolysis study 4443
Perron-Sierra F. see Stolze D. A. 4081
Perrone E. see Alpegiani M. 3883
Perrone E. see Alpegiani M. 6207
Perrotta E. see Nativi C. 2265
Perumal P. T. see Rein K. S. 1941
Perumal P. T. see Venugopal M. 3235
Perumattam J. Shearer B. G. Confer W. L. and **Mathew R. M.** Synthesis of (D)- and (L)-forms of differentially protected 2-piperidine-methanamine 7183
Peschard O. see Duhamel L. 4695
Pete J.-P. see Piva O. 3993
Peter M. G. see Andersen S. O. 4287
Peter M. G. see Boldt P.-C. 1413
Peters C. A. M. see Jetten M. 6025
Peters E.-M. see Tochtermann W. 483
Peters K. see Adam W. 4283
Peters K. see Tochtermann W. 483
Peters S. Bielfeldt T. Meldal M. Bock K. and **Paulsen H.** Multiple column solid phase glycopeptide synthesis 5067
Peters U. see Tochtermann W. 483
Petersson P. see Rossiter B. E. 3609
Petit F. see Carpentier J.-F. 4705
Petit F. see Mathé F. 3989
Petit F. see Monflier E. 4703
Petit J.-M. Paquet F. and **Beau J.-M.** Syntheses of β-2-deoxy-D-glycosides assisted by glycosidases 6125
Petránek J. see Lochmann L. 1483
Petri A. see Pini D. 5175
Petrosyan V. A. see Niyazymbetov M. E. 1099
Petrovic I. see Rajkovic M. 7605
Petter R. C. Kumaravel G. Powers D. G. and **Chang C.-T.** Synthesis of 2-spirocyclopropylglucose via condensation of erythrose with the lithium enolate of 2,6-di-*tert*-butyl-4-methylphenyl cyclopropane carboxylate 449
Petter R. C. see Rao S. J. 3775
Pews R. G. Hunter J. E. and **Wehmeyer R. M.** A novel synthesis of 2,6-disubstituted and 2,3,6-trisubstituted anilines 7191
Pfaltz A. see Lohse P. 615
Pflieger P. see Bosch H. 2237
Pham A. T. Ichiba T. Yoshida W. Y. Scheuer P. J. Uchida T. Tanaka J. and **Higa T.** Two marine sesquiterpene thiocyanates 4843
Pham T. see Ho M. 1283
Pham T.-N. see Lemarié M. 7411
Pharis R. P. see Bhaskar K. V. 6203
Phelan J. C. see McMurry J. E. 5655
Phillion D. P. and **Andrew S. S.** A new method for preparing aqueous solutions of trialkylsulfonium and trialkylsulfoxonium hydroxides 3621
Phythian S. J. see Brimble M. A. 6417
Picard C. see Cazaux L. 919
Pierre J.-L. see Gagnaire G. 2021
Piers E. and **Roberge J. Y.** Use of the Me_3Sn function as a readily removable 'anchoring' group in the synthesis of enantiomerically pure bicyclic alcohols and ketones 5219
Pietra F. see Bicchierini N. 4039
Pietra F. see Guella G. 6415
Pietri S. see Mercier A. 2125
Pietrusiewicz K. M. see Brandi A. 3265
Pietrusiewicz K. M. see Salamonczyk G. M. 4031
Pietrusiewicz K. M. see Salamonczyk G. M. 6167
Pigot T. see Cazaux L. 919
Pikul S. see Corey E. J. 7517
Pillai S. K. see Oppolzer W. 4893
Pilo J. C. see Dallemagne P. 6327
Pindur U. see Medio-Simon M. 1771
Pinel C. see Bertho J.-N. 1303
Pineschi M. see Chini M. 7583
Pini D. Petri A. Nardi A. Rosini C. and **Salvadori P.** Heterogeneous catalytic asymmetric dihydroxylation of olefins with the OsO_4/poly(9-*O*-acylquinine-co-acrylonitrile) system 5175
Pinto A. C. see Barluenga J. 3205
Pinto B. M. see Mehta S. 4435
Piscopio A. D. see Burke S. D. 855
Piscopio A. D. see Burke S. D. 857
Pitchumani K. Manickam M. C. D. and **Srinivasan C.** Effect of cyclodextrin encapsulation on photo-Fries rearrangement of benzensulphonanilide 2975
Pitt I. G. see Warrener R. N. 1885
Pitt I. G. see Warrener R. N. 1889
Pittman, Jr. C. U. see Tabaei S.-M. H. 2727
Piva O. Amougay A. and **Pete J.-P.** Direct oxidation of benzylic and allylic silyl ethers to carbonyl compounds 3993
Piveteau E. see Genêt J. P. 2359
Plamondon J. and **Canonne P.** Synthesis of (±)-α-Chamigrene 589
Plancquaert M.-A. François P. Merényi R. and **Viehe H. G.** Activation of acrylate-moiety by strain and fluoroalkyl substitution in 4-chloro-3,3,4-trifluoro-methoxycarbonyl cyclobutene 7265
Plata D. J. Leanna M. R. and **Morton H. E.** The stereospecific preparation of an hydroxyethylene isostere precursor via a novel piperidine-2,5-dione template 3623
Platz M. S. see Perrin H. M. 4443
Plé G. see Duhamel L. 4695
Plisnier M. see Kambouris P. 1487
Plumet J. see Alcaide B. 803
Plumet J. see Arjona O. 7309
Plumet J. see Domínguez C. 4183
Plummer J. S. see Yamazaki T. 4267
Plusquellec D. see Allainmat M. 2751
Plusquellec D. see Chauvin C. 3495
Plusquellec D. see Leon-Ruaud P. 1557
Poch M. see Canas M. 6931
Poch M. Verdaguer X. Moyano A. Pericàs M. A. and **Riera A.** A versatile enantiospecific approach to 3-azetidinols and aziridines 6935
Pochat F. see Reux D. 4133
Pochetti G. see Zecchini G. P. 4375
Pochetti G. see Zecchini G. P. 6779
Pochini A. see Groenen L. C. 2675
Pohmakotr M. and **Popuang S.** Intramolecular acylation of α-sulfinyl carbanion: a facile synthesis of (±)-pentenomycin I and (±)-epipentenomycin I 275
Poirier J.-M. see Duhamel L. 4499
Poirier J.-M. see Duhamel L. 4495
Poisson J. E. see Dalkafouki A. 5325
Poje M. see Sokolic L. 7477
Pokrovskaya M. see Zavgorodny S. 7593
Polianski M. see Zavgorodny S. 7593
Polizzi C. see Caporusso A. M. 7471
Pollak I. E. see Sheradsky T. 133

Pollini G. P. see Aghazade Tabrizi M. 683
Pollini G. P. see Barco A. 2517
Połonski T. and **Milewska M. J.** Bisignate n-π* circular dichroism of *N*-nitrosopyrrolidines 3255
Polt R. see Szabò L. 585
Polt R. and **Wijayaratne T.** Erythrose *sesqui*-acetals as electrophiles. 2-Deoxy-C-nucleosides from D-glucose 4831
Polz L. see Aimi N. 4949
Pombo-Villar E. see Cid M. M. 7233
Pomerantz M. and **Levanon M.** Carbene addition to the 2,3-bond of naphthalene and thermal Wolff rearrangement of bis(methoxycarbonyl)carbene 995
Pon R. T. A long chain biotin phosphoramidite reagent for the automated synthesis of 5'-biotinylated oligonucleotides 1715
Ponticello G. S. see Selnick H. G. 721
Poon C. D. see Yang Z. 2061
Poon T. see Sarneski J. E. 1153
Poppe L. Novák L. Dévényi J. and **Szántay Cs.** Baker's yeast mediated synthesis of (5*SR*,9*S*)-5,9-dimethylheptadecane and (5*SR*,9*S*)-5,9-dimethyl pentadecane; the main sex-pheromone components of *Leucoptera scitella* and *Perileucoptera coffeella* enriched in 9*S*-isomers 2643
Popuang S. see Pohmakotr M. 275
Portella C. and **Dondy B.** Mixed organofluorine-organosilicon chemistry: reaction of perfluoro-organometallic reagents with benzoylsilane 83
Porter H. P. see Boyd D. R. 2963
Porter N. A. Wu W.-X. and **McPhail A. T.** Competition rate constants for addition of cyclohexyl radical to amide substituted alkenes: origins of acyclic stereoselection in radical additions 707
Posner G. H. Nelson T. D. Kinter C. M. and **Afarinkia K.** 3-Bromo-2-pyrone: an easily prepared chameleon diene and a synthetic equivalent of 2-pyrone in thermal Diels–Alder cycloadditions 5295
Posner G. H. Oh C. H. and **Milhous W. K.** Olefin oxidative cleavage and dioxetane formation using triethylsily hydrotrioxide: applications to preparation of potent antimalarial 1,2,4-trioxanes 4235
Posner G. H. Shulman-Roskes E. M. Oh C. H. Carry J.-C. Green J. V. Clark A. B. Dai H. and **Anjeh T. E. N.** BF_3·OEt_2 Promotes fast, mild, clean and regioselective dehydration of tertiary alcohols 6489
Postaire D. see Combret J. C. 87
Potapov V. K. see Gryaznov S. M. 3715
Powers D. G. see Petter R. C. 449
Pozuelo C. see Marco-Contelles J. 6437
Prabhakar S. see Almeida P. S. 2671
Prabhakaran P. C. see Cane D. E. 5457
Pradère J.-P. see Abouelfida A. 2225
Pradhan J. see Dolbier, Jr. W. R. 3933
Pradhan P. see Banerji A. 4995
Prados P. see Echavarren A. M. 6421
Prahlada Rao S. see Prakash K. R. C. 7473
Prakashi K. R. C. and **Prahlada Rao** Ethoxycarbonyl-methylenetriphenyl phosphorane in carbohydrate chemistry: an easy access to functionalised 2-deoxy-3,6-anhydrohexono-1,4-lactones 7473
Prandi J. Audin C. and **Beau J.-M.** Synthesis of *C*-glycosides: boron trifluoride etherate-promoted opening of epoxides by anomeric anions 769
Prangé T. see Lejeune J. 2621
Prapansiri V. and **Thornton E. R.** Asymmetric Diels-Alder reactions. Inverse electron demand reactions of esters of 3-hydroxypyran-2-one with vinyl ethers: use of high pressure to avoid decarboxylation of adducts 3147
Prapansiri V. and **Thornton E. R.** Corrigendum 6044
Prasad G. K. B. Burchat A. Weeratunga G. Watts I. and **Dmitrienko G. I.** Regioselectivity in electrophilic substitution of 5-aminoindoles and 5-aminoindolines: synthesis of pyrrolo[3,2-*e*]indoles and isomeric pyrrolo[2,3-*f*]indoles 5035
Prasad K. see Chen C.-P. 7175
Prato M. see Ihmels H. 6215
Prato M. see Maggini M. 6957
Pratt A. J. see Alexander R. P. 3269
Prencipe T. see Altamura A. 5445
Prestwich G. D. see Estevez V. A. 1623
Prestwich G. D. see Marecek J. F. 1863
Prestwich G. D. see Xiao X. 6843
Previero A. see Mion L. 7401
Previsani N. see Jenny T. F. 7029
Price G. J. and **Clifton A. A.** A re-examination of the sonochemical coupling of bromoaryls 7133
Priebe W. Grynkiewicz G. Neamati N. and **Perez-Soler R.** A facile method for preparation of 3-thio-sugars and 3-thio-glycals. Synthesis of 3'-mercapto-3'-deamino-doxorubicin 3313
Priebe W. Grynkiewicz G. and **Neamati N.** 2-Deoxy-1-O-silylated-β-hexopyranoses. Useful glycosyl donors and synthetic intermediates 2079
Priebe W. and **Grynkiewcz G.** A facile and selective oxidation of sulfides to sulfones 7353
Priestley E. S. see Singleton D. A. 5765
Prinzbach H. see Fessner W.-D. 5935
Prinzbach H. see Fessner W.-D. 5939
Prota G. see Costantini C. 3849
Pruitt J. R. see Boeckman, Jr. R. K. 2581
Pucci B. see Boyer B. 1191
Pucci B. and **Pavia A. A.** Telomers of tris(hydroxymethyl)-acrylamidomethane, a new class of non-ionic surfactants: synthesis and assessment of their properties 1437
Pucher R. see Baumgartner H. 611
Pueyo E. see Galán A. 1827
Purandare A. V. see Rama Rao A. V. 547
Purdy D. F. see Nair V. 7503

Qiu W. see Shen Y. 4953
Qiu Y.-L. see Hu C.-M. 4001
Quartara L. see Rovero P. 2639
Quayle P. see King J. D. 7759
Quetin-Leclercq J. Angenot L. Dupont L. Dideberg O. Warin R. Delaude C. and **Coune C.** Revision of the structure of strychnochromine 4295
Quick J. K. see Berry P. D. 2683
Quin, III J. see Raban M. 35
Quinkert G. Becker H. and **Durner G.** Substantial refinement of the photochemical synthesis of (+)-aspicilin 7397
Quinkert G. del Grosso M. Bucher A. Bats J. W. and **Dürner G.** E. Dane's route to estrone revisited 3357
Quinn R. J. see Escher A. 3583
Quinn R. J. and **Scammells P. J.** Pyrazolo[3,4-*d*]pyrimidine analogues of isoguanine 6787
Quintard J.-P. see Beaudet I. 6333

Quinton P. and **Le Gall T.** Synthesis of unsaturated trihydroxy C_{18} fatty acids 4909
Quiñoá E. see Jiménez C. 1843
Quirion J.-C. see Lienard P. 2489
Quirion J.-C. see Zhu J. 2485

Ra H. S. see Kim S. S. 4725
Raban M. Quin, III J. and **Belguise A.** A sterically switched ionophore 35
Rabasco J. J. and **Kass S. R.** The gas-phase elimination reaction of 3-methoxycyclohexene: regio chemistry 4077
Rabideau P. W. Dhar R. K. Clawson D. K. and **Zhan Z.** Silicon mediated alkylations in the 9,10-dihydroanthracene system: a convenient synthesis of 9,9-dialkyl-9,10-dihydroanthracenes 3969
Rabideau P. W. Wind B. K. and **Syguda A.** The effect of phenyl substitution on the structure of benzylic anions 5659
Rabinowitz M. H. A convenient and highly stereoselective synthesis of 4α-deuterio and -tritio steroids catalyzed by Pd 6081
Racok J. S. see de Silva E. D. 2707
Radhakrishnan R. see Mehta G. 6219
Radhakrishnan T. P. Ground state spin of some molecules with unusual Hückel molecular orbital degeneracy 4601
Radinov R. N. see Oppolzer W. 5777
Radziłowski E. M. see Selnick H. G. 721
Rahal S. and **Badache L.** An anomalous Eschweiler-Clarke reaction 3847
Rahman S. K. see Stone M. J. 2663
Raimondi L. see Annunziata R. 1659
Rajadurai S. see Venugopal M. 3235
Rajanarayanan A. and **Jeyaraman R.** Deacetylation of *N*-acetylpiperidin-4-ones by a novel electrochemical method 3873
Rajkovic M. Lorenc L. Petrovic I. Milovanovic A. and **Mihailovic M. Lj.** Oxidative hydrolysis and acid-catalyzed rearrangement of steroidal isoxazolidines 7605
Rakhit S. see Abraham N. A. 577
Ram R. N. and **Varsha K.** Regeneration of carbonyl compounds from semicarbazones by copper(II) chloride dihydrate 5829
Rama Rao A. V. Chakraborty T. K. Sankaranayanan D. and **Purandare A. V.** Studies directed towards the synthesis of immunosuppressive agent FK-506: synthesis of the entire top-half 547
Rama Rao A. V. Chakraborty T. K. and **Laxma Reddy K.** Studies directed towards the synthesis of immunosuppressive agent FK-506: synthesis of the entire bottom-half 1251
Rama Rao A. V. Gurjar M. K. and **Sharma P. A.** Studies directed towards the total synthesis of aranorosin 6613
Rama Rao A. V. Singh A. K. and **Varaprasad Ch.V. N. S.** A convenient diastereoselective total synthesis of andrimid 4393
Rama Rao A. V. Yadav J. S. Reddy K. K. and **Upender V.** Total syntheses of (±) cervinomycins A_1 and A_2 5199
Rama Rao K. Nageswar Y. V. D. and **Sampath Kumar H. M.** Biocatalytic asymmetric synthesis of β-aminoacid esters: improved chiral recognition in the presence of β-cyclodextrin 6611
Ramachandran P. V. see Brown H. C. 6691
Ramamurthy V. Lei X.-G. Turro N. J. Lewis T. J. and **Scheffer J. R.** Photochemistry of macrocyclic ketones within zeolites: competition between Norrish type I and type II reactivity 7675
Ramesh N. G. and **Balasubramanian K. K.** Vilsmeier-Haack reaction of glycals-a short route to C-2-formyl glycals 3875
Ranganathan D. see Ranganathan S. 5615
Ranganathan S. Ranganathan D. and **Bhattacharyya D.** The transformation of histidine side chain to non-coded asparagines 5615
Rank W. Steroidal nitro ketones: synthetic and stereochemical aspects 5353
Ranu B. C. Bhar S. and **Sarkar D. C.** Surface-mediated solid phase Michael reaction: dramatic acceleration on alumina 2811
Ranu B. C. and **Basu M. K.** Stereocontrolled construction of angularly functionalized *trans*-fused cycloheptanoids via α-hydroxycyclobutane rearrangement followed by retroaldol cleavage 4177
Ranu B. C. and **Chakraborty R.** Highly selective reduction of conjugated nitroalkenes with zinc borohydride in DME 3579
Ranu B. C. and **Basu M. K.** Use of zinc borohydride for efficient reduction of carboxylic ester to alcohol. Selective reduction of aliphatic ester in presence of aromatic ester under sonication 3243
Rao B. R. see Sarkar A. 1247
Rao B. R. see Sarkar A. 2157
Rao K. S. see Corey E. J. 4623
Rao M. V. see Kamal A. 2657
Rao S. J. Milberg C. I. and **Petter R. C.** Heteroannular ferrocene-crown ether conjugates via acid-catalyzed macrocyclization 3775
Rao T. N. see Gustavson L. M. 5485
Raposo C. see Crego M. 4185
Rappoport Z. see Nadler E. B. 1233
Rappoport Z. see Zipori E. 6391
Rastelli A. see Burdisso M. 2659
Ratajczyk J. D. see Basha A. 3783
Ratkovic Z. see Solujic S. 4577
Rault S. see Dallemagne P. 6327
Ravi D. see Mereyala H. B. 7317
Ravishankar R. see Yadav J. S. 2629
Rawal V. H. and **Michoud C.** A general solution to the synthesis of 2-azabicyclo[3.3.1]nonane unit of *Strychnos* alkaloids 1695
Rawson D. J. and **Meyers A. I.** Highly reactive organolithiums (from 'Freeman's reagent') and their additions to naphthalene oxazolines 2095
Rayner B. see Péoc'h D. 207
Raynor K. see Spanevello R. A. 4675
Read J. M. see Wuonola M. A. 5481
Readey M. J. see Chaloner P. A. 6037
Ream J. E. see Pansegrau P. D. 2589
Rechencq E. see Niel G. 2613
Reddy D. S. K. see Mehta G. 6399
Reddy G. B. Hanamoto T. and **Hiyama T.** Aluminium-mediated [4+1] cyclization reaction: novel synthesis of 2,2,5,5-tetramethylcyclopentanecarboxylic acid 521
Reddy G. V. see Chakraborty T. K. 679
Reddy G. V. see Chakraborty T. K. 7597
Reddy K. K. see Rama Rao A. V. 5199
Reddy M. M. see Nayyar N. K. 6965
Reddy M. S. see Mehta G. 6219

Reddy N. K. see Narayana C. 6855
Reddy N. K. see Tius M. A. 3605
Reddy P. Y. see Pandey G. 5147
Reddy S. H. K. see Mehta G. 4989
Reddy S. H. K. see Mehta G. 6399
Reddy S. H. K. see Mehta G. 6403
Rees D. C. see Gilbert I. 2277
Reetz M. T. and **Lauterbach E. H.** Stereoselective epoxidation of chiral electron-poor γ-aminoolefins 4477
Reetz M. T. and **Lauterbach E. H.** Stereoselective [2,3]-sigmatropic rearrangement of chiral amine oxides derived from amino acids 4481
Regan A. C. see Andrews J. F. P. 7731
Reginato G. see Casarini A. 2169
Reginato G. see Ricci A. 1899
Réglier M. see Jaafar A. 5531
Reid L. S. see Damha M. J. 2573
Rein K. S. Chen Z.-H. Perumal P. T. Echegoyen L. and **Gawley R. E.** Single electron transfer in the addition of chiral dipole-stabilized organolithiums to carbonyls. Stereochemistry of a chiral nucleophile as a mechanistic probe 1941
Rein T. see Martin S. F. 6481
Reinhoudt D. N. see Groenen L. C. 2675
Reisenauer H. P. see Maier G. 4469
Reisine T. see Spanevello R. A. 4675
Reitter B. E. see Almond M. R. 5745
Remuzon P. see Jacquet J.-P. 1565
Renard P. Y. see Bouchard H. 5953
Renaud P. Vionnet J.-P. and **Vogel P.** Radical additions to silyl ketene acetals. Introduction of C-moieties to 7-oxabicyclo[2.2.1]hept-5-en-2-*endo*-ol 3491
Rennels R. A. see Nuss J. M. 5243
Repic O. see Chen C.-P. 7175
Resciffina A. see Padwa A. 5923
Resmini M. see Jommi G. 6969
Retherford C. and **Knochel P.** Highly stereoselective preparation of nitro olefins and nitro dienes by the addition-elimination of copper-zinc organometallics to β-alkylthio and β-phenylsulfonyl nitro olefins 441
Rettberg N. see Hartke K. 4679
Reuther F. see Bertho J.-N. 1303
Reux D. et **Pochat F.** Synthèse de naphthols à partir d'équivalents synthétiques de nitriles α-acétyléniques 4133
Revial G. see Hammoumi A. 651
Reynolds E. C. see Perich J. W. 4033
Reynolds S. J. see Pattenden G. 259
Reynolds W. F. see Tinto W. F. 4661
Rhee C. K. see Ward D. E. 7165
Ricard L. see Lejeune J. 2621
Ricca A. see Tronchet J. M. J. 4129
Ricci A. Degl'Innocenti A. Capperucci A. Reginato G. and **Mordini A.** Synthesis and reactivity of propenoylstannanes 1899
Ricci A. see Attinà M. 6775
Ricci A. see Casarini A. 2169
Ricci A. see Nativi C. 2265
Riccio R. see D'Auria M. V. 2149
Rice M. J. see Aggarwal V. K. 7743
Rich D. H. see Vara Prasad J. V. N. 5857
Richard J. P. Amyes T. L. and **Stevens I. W.** Generation and determination of the lifetime of an α-carbonyl substituted carbocation 4255
Richards D. H. see Golding P. 4985
Richardson C. D. see Juby C. D. 879
Richardson P. F. see Markó I. E. 1831
Richardson R. S. see Gilbert I. 2277
Riche C. see Deprez P. 7531
Richter A. M. see Beye N. 479
Richter J. see Komatsu K. 6767
Rideout J. L. see Almond M. R. 5745
Rieke R. D. see Xiong H. 5269
Rieke R. D. see Yang S. S. 3341
Rieke R. D. see Zhu L. 2865
Riera A. see Belloch J. 4579
Riera A. see Canas M. 6931
Riera A. see Poch M. 6935
Riera A. see Virgili M. 4583
Rieser M. J. Kozlowski J. F. Wood K. V. and **McLaughlin J. L.** Muricatacin: a simple biologically active acetogenin derivative from the seeds of *Annona muricata* (Annonaceae) 1137
Riesinger S. W. see Liebeskind L. S. 5681
Rifqui M. see Etemad-Moghadam G. 5965
Rigby J. H. and **Holsworth D. D.** Total synthesis of N-normitidine 5757
Riniker B. see Sieber P. 739
Ripoll J.-L. see Letulle M. 2013
Risch N. Langhals M. and **Hohberg T.** Triple (Grob) fragmentation. Retro-Mannich reactions of 1-aza-adamantane derivatives 4465
Ritter J. see Gleiter R. 2883
Ritter J. see Gleiter R. 2887
Riva A. see Trendel J. M. 2959
Rivas F. see García-Granados A. 5383
Rivera I. and **Soderquist J. A.** Dienes, enynes and styrenes from Markovnikov vinylboranes via the Suzuki reaction 2311
Rivero R. A. Greenlee W. J. and **Patchett A. A.** Sulfones as peptide bond isosteres 5263
Rivero R. A. and **Greenlee W. J.** The synthesis of novel macrocyclic inhibitors of human renin 2453
Riviere P. see Mellor J. M. 7103
Rivola G. see Alpegiani M. 3883
Robba M. see Dallemagne P. 6327
Roberge J. Y. see Piers E. 5219
Roberts B. P. and **Steel A. J.** Can both *cis*- and *trans*-isomers of the 9-decalyl radical be detected in solution by ESR spectroscopy 5385
Robertson C. A. see Jones M. F. 247
Robins M. J. see Samano M. C. 6293
Robles J. Pedroso E. and **Grandas A.** Solid phase synthesis of a model nucleopeptide with a phosphodiester bond between the 5' end of a trinucleotide and a serine residue 4389
Robles J. see Eritja R. 1511
Roby J. see Voyer N. 331
Rocchi R. see Filira F. 7463
Rocco V. P. Danishefsky S. J. and **Schulte G. K.** Substrate specificity in enzymatically mediated *trans*-acetylation reactions of calicheamicinone intermediates 6671
Rocco V. P. see Yamashita D. S. 6667
Rocha Gonsalves A. M. d'A. Johnstone R. A. W. Pereira M. M. Shaw J. and **Sobral A. J. F. do N.** Metal-assisted reactions—XXII. Synthesis of perhalogenated porphyrins and their use as oxidation catalysts 1355
Rochigneux I. Fontanel M.-L. Malanda J.-C. and **Doutheau A.** Radical cyclisation of some 1,2,6-trideoxy-3,4-di-*O*-benzyl-6-halogeno-L-*arabino*-hex-1-ynitol derivatives 2017
Rodríguez B. see Domínguez G. 4765
Rodríguez B. see Lourenço A. 7305

Rodríguez C. Mª and Martin V. S. An approach to the stereocontrolled synthesis of polysubstituted chiral butenolides and γ-lactones 2165
Rodriguez I. see Oppolzer W. 61
Rodriguez J. H. see García Ruano J. L. 3195
Rodriguez M. Llinares M. Doulut S. Heitz A. and **Martinez J.** A facile synthesis of chiral N-protected β-amino alcohols 923
Rodríguez M. L. see Alvarez E. 2253
Rodríguez M. S. see Francisco C. G. 3413
Rodriguez R. see Arséniyadis S. 3573
Rodríguez-López J. see Alcaide B. 803
Rodríguez-Luis F. see Collado I. G. 3209
Rodriques K. E. A novel route to cyclopropyl ketones, aldehydes, and carboxylic acids 1275
Roepstorff P. see Andersen S. O. 4287
Roger P. see Gautier C. 3361
Rogers C. and **Keay B. A.** Catalytic methylaluminum dichloride: an efficient method for accelerating the intramolecular Diels–Alder reaction of the furan diene 6477
Rogers R. S. see Liu P. S. 5853
Rogic M. M. see Neumann W. L. 5865
Roh K. R. Kim K. S. and Kim Y. H. Facile oxidation of sulfides to sulfoxides using iodosobenzene and benzeneseleninic acid as a catalyst 793
Roidot N. see Langlois B. R. 7525
Roizard D. see Faivre V. 193
Rolando C. see Eddarir S. 69
Romanenko V. see Sanchez M. 2775
Romine J. L. see Meyers A. I. 597
Rong D. see Ye H. 5231
Rong J.-G. see Chem J.-W. 2935
Rontani J.-F. Production of α,β-epoxyaldehydes by photosensitized oxygenation of phytol: solvent effects 6551
Ronzini L. see Florio S. 1114
Rookhuizen R. B. see Hanekamp J. C. 5397
Roos E. C. Bernabé P. Hiemstra H. Speckamp W. N. Kaptein B. and **Boesten W. H. J.** Palladium-catalyzed synthesis of amides and peptides 6633
Roque J. P. see Boyer B. 1191
Roque J.-P. see André B. 1881
Roque J.-P. see André B. 4056
Rosado I. see Soderquist J. A. 4451
Rose E. see Boitrel B. 2129
Rose E. see Djukic J. P. 6703
Rose-Munch F. Mignon L. and **Souchez J. P.** Double nucleophilic addition to fluoroarenetricarbonylchromium complexes 6323
Rose-Munch F. see Djukic J. P. 6703
Rosenbach M. T. see Kanavarioti A. 6065
Rosenberg S. H. Boyd S. A. and **Mantel R. A.** A stereoselective synthesis of hydroxyethylene and *erythro*-dihydroxyethylene dipeptide isosteres: a facial selective *anti*-aldol reaction 6507
Rosini C. see Pini D. 5175
Rosset S. Célérier J. P. and **Lhommet G.** Enantioselective syntheses of *Monomorium minutum* ant venom alkaloids: (5*R*)-2-(5-hexenyl)-5-nonyl-3,4-dihydro-2H-pyrrole and (2*R*,5*R*)-2-(5-hexenyl)-5-nonylpyrrolidine from (*S*)-pyroglutamic acid 7521
Rossi J. C. see Niel G. 2613
Rossiter B. E. Eguchi M. Hernández A. E. Vickers D. Medich J. Marr J. and **Heinis D.** Enantioselective conjugate addition to cyclic enones with (*S*)-MAPP-cuprates 3973
Rossiter B. E. Petersson P. Johnson D. F. Eguchi M. Bradshaw J. S. Markides K. E. and **Lee M. L.** Rational design of chiral stationary phases for capillary supercritical fluid chromatography 3609
Rotello V. M. see Wasserman H. H. 7571
Roth G. P. see Farina V. 4243
Roth G. P. and **Sapino C.** Palladium in cephalosporin chemistry: an inexpensive triflate replacement for palladium acetate mediated coupling reactions 4073
Rothen L. and **Schlosser M.** A one-pot synthesis of coumaryl, coniferyl and sinapyl alcohol 2475
Rouden J. see Deprez P. 7531
Roush W. R. and **Park J. C.** Asymmetric allylborations of 3-decynal dicobalt hexacarbonyl: cobalt induced reversal of enantioselectivity and applications to highly diastereoselective intramolecular Pauson–Khand reactions 6285
Roussakis C. see Malochet-Grivois C. 6701
Rousselle D. Musick C. Viehe H. G. Tinant B. and **Declercq J.-P.** Tris-aza-Cope rearrangement of bicyclic N-cyano-N'-vinyl or N'-aryl-hydrazines to imidazolo-diazepine derivatives 907
Rousset A. see Mion L. 7401
Roussi G. and **Zhang J.** A new alkylation method of the carbon α to the nitrogen of secondary amines 1443
Rovero P. Quartara L. and **Fabbri G.** Synthesis of cyclic peptides on solid support 2639
Rovin J. D. see Burke S. D. 3961
Royer D. see Lévy J. 5081
Royer J. see Deprez P. 7531
Royer J. see Lienard P. 2489
Royer J. see Zhu J. 2485
Rozé J.-C. see Abouelfida A. 2225
Rozema M. J. and **Knochel P.** Selective multiple methylene insertion reactions mediated by iodomethylzinc iodide: mechanistic considerations and synthetic applications 1855
Rubenstein S. M. see Oh T. 4647
Rubiales G. see Palomo C. 3115
Rubio A. see Bueno A. B. 3191
Rubiralta M. see Bettiol J.-L. 5413
Rubiralta M. see Bettiol J.-L. 7449
Rubiralta M. see Troin Y. 6129
Rüegg G. M. see Differding E. 1779
Rüegg G. M. see Differding E. 3815
Ruël B. H. M. see Groenen L. C. 2675
Ruel O. see Baudin J. B. 1175
Ruffing J. see Wagner R. W. 1703
Ruhlandt-Senge K. see Kim H. R. 4259
Ruiz P. see Solladié G. 3695
Rumbero A. see Arséniyadis S. 3573
Rumbero A. see Ouazzani J. 1983
Rumbero A. and **Vázquez P.** Structure and stereochemistry of magniflorine, a new indole alkaloid from *Hamelia Magniflora Wernha* 5153
Russell R. A. see Warrener R. N. 1885
Russell R. A. see Warrener R. N. 1889
Russo G. see Nicotra F. 4035
Rutjes F. P. J. T. Paz M. M. Hiemstra H. and **Speckamp W. N.** Palladium-catalyzed reactions with *N,N'*-diallyloxycarbonyl-hydrazines 6629
Ryan G. R. see Paterson I. 1749
Rychnovsky S. D. and **Kim J.** 1-Methylcyclopropyl (MCP) ethers as protecting groups 7219
Rychnovsky S. D. and **Kim J.** Regiospecificity of acetal cleavage to an enol ether using a carbon-13 labeled acetonide 7223
Ryoden K. see Mandai T. 7683
Rypens C. see Nasielski J. 1311

Ryu I. see Nakahira H. 229

Sá e Melo M. L. see Moreno M. J. S. M. 3201
Saá J. M. Morey J. Suñer G. Frontera A. and **Costa A.** The generation of C,O,O-trilithiated derivatives of dihydric phenols 7313
Saá J. M. see Coll G. 263
Saá J. M. see Garcías X. 7739
Saba S. Brescia A. and **Kaloustian M. K.** One-pot synthesis of cyclic amidinium tetrafluoroborates and hexafluorophosphates; the simplest models of N^5,N^{10}-methenyl-tetrahydrofolate coenzyme 5031
Sabat M. see Sundberg R. J. 3035
Sabol J. S. see McDonald I. A. 887
Sabuco J.-F. see Crozet M. P. 4125
Saburi M. see Shao L. 7699
Saengchantara S. T. see Hayes R. 2953
Šafar-Cvitaš D. see Mlinaric-Majerski K. 1655
Safi M. and **Sinou D.** Palladium(0)-catalyzed substitution of allylic substrates in a two-phase aqueous–organic medium 2025
Saha A. and **Nasipuri D.** Stereoselective synthesis of (±)-veadeiroic acid and (±)-veadeirol-two novel diterpenes with cleistanthane skeleton 3213
Saha U. K. see Gurjar M. K. 6621
Saigo K. see Kudo K. 4311
Sain B. Singh S. P. and **Sandhu J. S.** Diazabutadienes in heterocyclic syntheses: reaction of 1,3-diazabutadienes with 2-oxazolin-5-ones 5151
Sainsbury M. see Campbell M. M. 951
Saito I. see Chan K. L. 7719
Saito I. see Matsugo S. 2949
Saito R. see Ueno Y. 1347
Saito S. see Kitagawa M. 3531
Saito S. see Kumagai T. 6895
Saito S. Takahashi N. Ishikawa T. and **Moriwake T.** Selective C-2 opening of 2,3-epoxyesters with HN_3-amine system: a viable route to β-hydroxy-α-amino acids 667
Saito S. Yokoyama H. Ishikawa T. Niwa N. and **Moriwake T.** Hydrogen azide-amine systems as an azide nucleophile for substitutions of sulfonates, halides, and vicinal disulfonates 663
Saito T. see Fujii T. 97
Saito T. see Murahashi S.-I. 2145
Saito T. see Murahashi S.-I. 5991
Sakaguchi M. see Shono T. 1051
Sakaguchi S. see Okamura H. 5137
Sakaguchi T. see Kuroda S. 655
Sakai A. see Aoki M. 4737
Sakai K. see Matsukuma A. 7559
Sakai K. see Nagumo S. 5585
Sakai K. see Tanaka M. 5581
Sakai K. see Yamamoto T. 515
Sakai N. see Kakeya H. 1343
Sakai S. see Aimi N. 4949
Sakai S. see Fukuzawa S. 7691
Sakai T. see Sun X.-R. 5797
Sakai Y. Nishiwaki E. Shishido K. Shibuya M. and **Kido M.** Synthesis of a sulfur-containing 10-membered enediyne model compound related to the esperamicin/calicheamicin/dynemicin aglycones 4363
Sakakibara J. see Matsuda I. 7431
Sakakibara J. see Murakami N. 1331
Sakakibara K. see Araki S. 6587
Sakakibara T. Nishitani T. Seta A. and **Nakagawa T.** Anomeric effect on acidity; experimental and theoretical studies on proton abstraction at anomeric center of 1,5-anhydro-4,6-*O*-benzylidene-2,3-dideoxy-3-*C*-nitro-D-hex-2-enitol 5809
Sakamoto A. see Koide Y. 3375
Sakamoto H. see Kawagishi H. 4561
Sakamoto Y. see Nokami J. 2409
Sakata I. see Ando T. 5107
Sakata S. see Hashimoto S. 4027
Sakoda M. see Harada N. 6757
Sakoda M. see Harada N. 6761
Sakoda M. see Nishiyama S. 6753
Sakuda S. and **Yamada Y.** Stereochemistry of butyrolactune autoregulators from *Streptomyces* 1817
Sakuragi H. see Akaba R. 109
Sakurai M. see Asaoka M. 7567
Salamonczyk G. M. and **Pietruslewicz K. M.** A practical three-step conversion of *myo*-inositol into D-*myo*-inositol-1-phosphate 4031
Salamonczyk G. M. and **Pietruslewicz K. M.** Expedient synthesis of D-*myo*-inositol 1,4,5-trisphosphate and D-*myo*-inositol 1,4-bisphosphate 6167
Salaün J.-P. see Bosch H. 2237
Salehi A. Mei H.-Y. and **Bruice T. C.** Synthesis and DNA-binding studies of new cationic guanidine and betaineamide tetraphenylporphyrins 3453
Salem S. M. see Luheshi A.-B. N. 4056
Salemink C. A. see Novák M. 4405
Saliou C. Fleurant A. Célérier J. P. and **Lhommet G.** Total synthesis of (+) Monomorine I from chiral cyclic β-enamino ester 3365
Salle M. Belyasmine A. Gorgues A. Jubault M. and **Soyer N.** Extended analogues of tetrathiafulvalene (TTF): 1,2-bis, 1,4-bis and 1,2,4,5-tetrakis(1,4-dithiafulven-6-yl)benzenes; synthesis and π-donor abilities 2897
Salmerón A. see Galán A. 1827
Salomon C. J. Mata E. G. and **Mascaretti O. A.** Bis(tributyltin)oxide. A mild, neutral and selective reagent for cleavage of esters. Scope and limitation of the reaction 4239
Salvá J. see Collado I. G. 3209
Salvador J. M. see Hoffman R. V. 2429
Salvadori P. see Pini D. 5175
Salvatore B. A. see Smith, III A. B. 4855
Salvatore B. A. see Smith, III A. B. 4859
Samano M. C. and **Robins M. J.** Efficient reduction of azides to amines with tributylstannane. High-yield syntheses of amino and diamino deoxynucleosides 6293
Samarasinghe T. K. S. D. see Bissell R. A. 425
Sammes M. P. see Yung T. W. K. 4329
Sammons R. D. see Pansegrau P. D. 2589
Sampath Kumar H. M. see Rama Rao K. 6611
Sánchez J. B. see Avalos M. 2513
Sanchez M. Romanenko V. Mazières M.-R. Gudima A. and **Markowski L.** The phosphaalkene-phosphenium cations $(R_2N)_2C{=}P{-}P^+{-}NR'_2$; a route towards diphosphenes and phosphaallylic cations 2775
Sánchez-Baeza F. see Lluch A.-M. 5629
Sandanayake K. R. A. S. see de Silva A. P. 421
Sanders W. M. see Ghosh A. K. 711
Sandhu J. S. see Sain B. 5151
Sanemitsu Y. see Tanabe Y. 379
Sanemitsu Y. see Tanabe Y. 383
Sangen O. see Yamana K. 4721
Sangen O. see Yamana K. 6347
Sanin A. see Zavgorodny S. 7593
Sankaranayanan D. see Rama Rao A. V. 547
Sano J. see Nishizawa M. 211
Sansbury F. H. see McIntyre S. 5409

Sansbury F. H. and **Warren S.** Synthesis of tetrahydropyrans by hydroxyl participation in phenylthio migration 3425
Santaflanos D. see Burke S. D. 3957
Santamaria J. and **Jroundi R.** Electron transfer activation — a selective photooxidation method for the preparation of aromatic aldehydes and ketones 4291
Santaniello E. Ferraboschi P. and **Grisenti P.** Corrigendum 430
Santelli M. see Zair T. 4501
Santelli-Rouvier C. see Zair T. 4501
Santhakumar V. see Grigg R. 687
Santhosh K. C. and **Balasubramanian K. K.** A facile synthesis of 3-alkylchromanones and chromones 7727
Santi R. see Cabri W. 1753
Santiago B. Lopez C. and **Soderquist J. A.** 1,2-Dialkylvinylsilanes from α-silyl epoxides via organolithium reagents 3457
Santos C. A. M. see Brown R. T. 1987
Santoyo-González F. Hernández-Mateo F. and **Vargas-Berenguel A.** Reductive decyanation of 3-amino-3-cyano-3-deoxy sugars with sodium borohydride. A new approach to 3-amino-3-deoxy sugars 1371
Sanz J. F. see Marco J. A. 5193
Sanz Mª J. see Crego M. 4185
Sapino C. see Rotá G. P. 4073
Saraçoglu N. see Durucasu I. 7097
Sarfati R. S. Namane A. Munier H. and **Bârzu O.** New fluorescent and photoactivable analogs acting on nucleotide binding enzymes 4699
Sarkar A. and **Rao B. R.** Reduction of ketones with polydibenzo-18-crown-6-borohydride 2157
Sarkar A. see Ganesh S. 1085
Sarkar A. and **Rao B. R.** Montmorillonite supported (-) N-dodecyl-N-methyl ephedrenium borohydride: an efficient reducing agent 1247
Sarkar A. K. see Flann C. J. 6993
Sarkar D. C. see Ranu B. C. 2811
Sarneski J. E. Michos D. Thorp H. H. Didiuk M. Poon T. Blewitt J. Brudvig G. W. and **Crabtree R. H.** Alkyl hydroperoxide oxidation of alkanes and alkenes with a highly active Mn catalyst 1153
Sarshar S. see Corey E. J. 6835
Sartori G. Casnati G. Bigi F. and **Baraldi D.** Friedel-Crafts coordinated processes: selective cyclooligomerization of acyl chlorides 2153
Sasaki H. see Hanzawa Y. 4143
Sasaki M. Collin J. and **Kagan H. B.** Reactions of P–Cl compounds in presence of SmI_2 2493
Sasaki M. Tachibana K. and **Nakanishi H.** An efficient and stereocontrolled synthesis of the nephritogenoside core structure 6873
Sasaki T. see Kikuchi Y. 797
Sasano S. see Masuda R. 1195
Satake M. see Ezaki K. 2793
Satici H. see Enholm E. J. 2433
Sato F. see Aoyama Y. 6731
Sato F. see Ito T. 371
Sato F. see Okamoto S. 5789
Sato F. see Okamoto S. 5793
Sato F. see Yamakawa I. 2045
Sato H. see Hamada T. 1649
Sato K. see Akasaka T. 6605
Sato K. see Kusumoto T. 939
Sato K. see Tsukamoto M. 7083
Sato O. see Suzuki T. 4505
Sato R. and **Chino K.** Convenient synthesis of 1,2,4-benzotrithiins from benzopentathiepin with phosphorus ylide 6345
Sato S. see Ogawa S. 3179
Sato T. see Ishibashi H. 1725
Sato T. see Otera J. 2405
Sato T. and **Takezoe K.** Photocleavage of carbon–tin bond activated by neighboring carbonyl group 4003
Satoh T. Onda K. Itoh N. and **Yamakawa K.** Ethylmagnesium bromide mediated desulfinylation of α-halo-β-ketosulfoxides giving α-haloketones, and trapping of the magnesium enolate intermediate 5599
Sauer G. see Künzer H. 1949
Sauer G. see Künzer H. 3673
Sauer G. see Künzer H. 7247
Sauer G. see Künzer H. 743
Saunders M. J. see Newkome G. R. 1133
Saunders R. N. see Berry P. D. 2683
Sauvage J.-P. see Collin J.-P. 5977
Sauvage J.-P. see Heitz V. 197
Sauvêtre R. see Tellier F. 5963
Savignac P. see Patois C. 1317
Savoia D. see Bocoum A. 1367
Sawa E. see Mikami K. 6571
Sawai H. see Shinozuka K. 6869
Sawai H. Wakai H. and **Shimazu M.** Facile synthesis of cap portion of messenger RNA by Mn(II) ion-catalyzed pyrophosphate formation in aqueous solution 6905
Sawamura M. see Hayashi T. 2799
Sawyer J. S. see Schmittling E. A. 7207
Saxton J. E. see Guile S. 1381
Saxty B. A. see Dolle R. E. 4587
Sayo N. see Zhang X. 7283
Sayre L. M. see Arora P. K. 1007
Scammells P. J. see Quinn R. J. 6787
Scarlato G. R. see Zhao Z. 1609
Scettri A. see Antonioletti R. 5373
Schaeffer J. M. see Blizzard T. A. 2437
Schaeffer J. M. see Blizzard T. A. 2441
Schäfer W. see Barlos K. 471
Schäfer W. see Torres T. 5825
Schaumann E. see Breternitz H.-J. 1299
Scheeren H. W. see Aben R. W. M. 6445
Scheffer J. R. see Ramamurthy V. 7675
Scheich H. see Bryce M. R. 6029
Scheidt A. see Jeromin G. E. 7021
Schepartz A. see Cuenoud B. 3325
Scherkenbeck J. and **Wachendorff-Neumann U.** Synthesis and structure-activity relationships of some milbemycin E analogues 1719
Scheuer P. J. see Hamann M. T. 5671
Scheuer P. J. see Pham A. T. 4843
Scheumann K. see Fessner W.-D. 5939
Scheunemann M. see Martens J. 1417
Scheuplein S. W. see Brückner R. 1449
Scheurich G. see Montforts F.-P. 3477
Schiebler W. see Dreef C. E. 6021
Schinazi R. F. see Chu C. K. 3791
Schinzer D. and **Kalesse M.** Diastereoselective double Michael additions of vinylogous esters and thexyldimethylsilyl triflate-induced cyclizations 4691
Schionato A. see Paganelli S. 2807
Schirlin D. see Altenburger J. M. 7255
Schlageter M. see Vogt P. 4115
Schlosser M. see Faigl F. 3369
Schlosser M. see Rothen L. 2475
Schlosser M. see Simig G. 1963
Schlosser M. and **Simig G.** 8-Methoxyisoquinoline derivatives through *ortho*-selective metalation of 2-(3-methoxyphenyl)ethylamine 1965
Schmid J.-C. see Adam P. 2955
Schmidhauser J. C. and **Longley K. L.** A new preparation of N-alkyl-2(1H)-pyridones from 2-glycidoxypyridines 7155

Schmidt A. see Wamhoff H. 4473
Schmidt J. see Lieberknecht A. 2113
Schmidt R. R. see Vlahov I. R. 7025
Schmidt R. R. and **Toepfer A.** Glycosylation with highly reactive glycosyl donors: efficiency of the inverse procedure 3353
Schmittling E. A. and **Sawyer J. S.** Selective desilylation of *tert*-butyldimethylsilyl ethers of phenols using potassium fluoride-alumina and ultrasound 7207
Schmitz C. see Carissimo-Rietsch F. 3845
Schnoes H. K. see Perlman K. L. 7663
Schöffling B. see Maier M. E. 53
Scholz G. und **Tochtermann W.** Optisch aktive γ-Lactone aus Cyclooctin und Furan–Synthese von (–)-Muricatacin 5535
Schreier P. see Lutz A. 5943
Schreier P. see Pabst A. 4885
Schreier P. see Winterhalter P. 3669
Schroepfer, Jr. G. J. see Herz J. E. 3923
Schulte G. K. see Wasserman H. H. 7571
Schulte G. K. see Rocco V. P. 6671
Schulte G. K. see Wasserman H. H. 6039
Schultz A. G. Graves D. M. Jacobson R. R. and **Tham F. S.** Photochemistry of codeinone derivatives. Asymmetric syntheses of enantiomerically pure 1,13-dihydroxy-dibenzazonines 7499
Schulz G. see Edmunds A. J. F. 7039
Schulz G. see Grassberger M. A. 7393
Schumacher-Wandersleb M. H. M. G see Boldt P.-C. 1413
Schurig V. see Jauch J. 4687
Schwab J. M. see Moore J. A. 2331
Schwär G. see Thiemann T. 3483
Schwartzman M. L. see Lumin S. 2315
Scolastico C. see Bernardi A. 823
Scorrano G. see Ihmels H. 6215
Scorrano G. see Maggini M. 6957
Scott A. I. see Yon-Hin P. 4231
Scott M. E. see Magriotis P. A. 5047
Scott M. E. see Magriotis P. A. 6085
Scott W. J. see Yuan K. 189
Scremin C. L. see Colonna F. P. 3251
Scully M. F. see Cheng L. 7333
Searle P. A. see Campbell M. M. 951
Sebastian J. F. see Harris N. J. 6069
Sebok P. see Eszenyi T. 827
Seconi G. see Casarini A. 2169
Secor H. V. see Li S. 3945
Seeman J. I. see Li S. 3945
Segi M. Kato M. and **Nakajima T.** A useful method for the synthesis of selenoaldehydes with electron-withdrawing substituents 7427
Seijas J. A. see Castedo L. 3871
Seitz G. see Baumann L. 5949
Seitz G. see Kümmell A. 2743
Seitz W. J. see Olson A. S. 5299
Seki T. see Shao L. 7699
Sekine M. Iimura S. and **Nakanishi T.** A convenient method for removal of the *t*-butyl group from nucleoside bis(*t*-butyl) phosphates under non-acidic conditions 395
Seko S. see Suginome H. 5115
Sellers S. F. see Dolbier, Jr. W. R. 3933
Selmi A. see Alvernhe G. 643
Selmi A. see Laurent A. J. 3071
Selnick H. G. Radzilowski E. M. and **Ponticello G. S.** The synthesis of dihydrothieno[2,3-*b*]thiophenes by a metal-halogen exchange initiated intramolecular acylation 721
Selvaraj S. Dhanabalan A. and **Arumugam N.** A novel reaction of some bis(aroylmethyl) sulfoxides with aromatic aldehydes and ammonium acetate 7469
Sémon E. see Pabst A. 4885
Sennyey G. see Bertho J.-N. 1303
Seoane C. see Victory P. 5375
Sepulchre C. see Stoller A. 495
Sercel A. D. see Showalter H. D. H. 2849
Serra A. C. and **da Silva Corrêa C. M. M.** An interesting rearrangement of unsaturated sulphonate and thiosulphonate esters 6653
Seta A. see Sakakibara T. 5809
Seto H. see Aoki M. 217
Seto H. see Aoki M. 221
Seto H. see Aoki M. 4737
Seto H. see Hayakawa Y. 213
Seto H. see Nakagawa M. 659
Seto H. see Shin-ya K. 943
Sévin A.-F. see Hall D. 7123
Sgarra R. see Florio S. 1114
Shah K. see Vankar Y. D. 1081
Shah S. R. see Mehta G. 5195
Shah V. G. see Sonawane H. R. 1107
Shankaran K. see Burke S. D. 4655
Shanthan Rao P. and **Venkataratnam R. V.** Zinc chloride as a new catalyst for Knoevenagel condensation 5821
Shao J. Shekhani M. S. Krauss S. Grübler G. and **Voelter W.** A test-case for the 1-(1-adamantyl)-1-methyl-ethoxycarbonyl (ADPOC) group: solid-phase synthesis of LH-RH using N^{a}-ADPOC protection and an acid labile handle 345
Shao L. Seki T. Kawano H. and **Saburi M.** Asymmetric hydrogenation of methyl 3,5-dioxohexanoate catalyzed by Ru–binap complex: a short step asymmetric synthesis of dihydro-6-methyl-2*H*-pyran-2-one 7699
Shao X. and **Tamm C.** Cyclization of α-hydroxy-β-diketones to furan-3(2*H*)-ones under mild basic conditions 2891
Sharma D. C. see Bansal R. K. 6433
Sharma G. V. R. see Srikrishna A. 6609
Sharma N. D. see Boyd D. R. 3887
Sharma P. A. see Rama Rao A. V. 6613
Sharpless K. B. see Ogino Y. 3965
Sharpless K. B. see Ogino Y. 5761
Sharpless K. B. see Oi R. 4853
Sharpless K. B. see Oi R. 999
Sharpless K. B. see Park C. Y. 1003
Shashkov A. S. see Smit W. A. 2105
Shaw J. see Rocha Gonsalves A. M. d'A. 1355
Shea K. J. Staab A. J. and **Zandi K. S.** Pericyclic umpolung. Reversal of regioselectivity in the Diels–Alder reaction 2715
Shearer B. G. see Perumattam J. 7183
Shechter H. see Mathur N. C. 3799
Shekhani M. S. see Shao J. 345
Shen Y. Xiang Y. and **Qiu W.** A novel generation of perfluoroalkylated enolates by reductive cleavage of fluorinated β-ketophosphonium salts 4953
Shen Y. and **Wang T.** A novel one-pot synthesis of β-hydroxy 1,3-dienes via allylic ylide-anion 4353
Shen Y. and **Zhou Y.** Palladium-catalyzed conversion of aldehydes to alkenes in the presence of tri-N-butylphosphine 513
Sheradsky T. Milvitskaya J. and **Pollak I. E.** Intramolecular oxidative Diels-Alder reaction of N-sorbyl-L-proline acylhydrazides 133

Sheu J.-H. Chen Y.-K. and **Hong Y.-L. V.** An efficient synthesis of yuehchukene 1045
Sheu J.-H. Yen C.-F. Huang C.-W. and **Chan Y.-L.** Further study on the regioselectivity of (dimethylvinylidene)carbene upon the cycloaddition to the α,β-unsaturated double bond of an allylic alcohol and the normal olefinic group 5547
Shi L.-L. see Wang W.-B. 3999
Shi M. Okamoto Y. and **Takamuku S.** photolysis of bis(methoxyphenyl) methylphosphonates. Their emission spectra and formation of dimethoxybiphenyl and dimethoxy-9,10-dioxaanthracene 6899
Shi X. see Suga H. 6911
Shiao M.-J. see Chia W.-L. 2033
Shibasaki M. see Mori M. 6139
Shibata J. see Ishii A. 4313
Shibata K. see Okazaki R. 6601
Shibata N. see Kita Y. 2375
Shibata T. see Ogino Y. 5761
Shibutani T. Fujihara H. and Furukawa N. A new approach for preparation of atropisomers of arylpyridyls via cross-coupling reactions of aryl 2-(3-substituted)pyridyl sulfoxides with Grignard and organolithium reagents 2943
Shibutani T. Fujihara H. and **Furukawa N.** A new and convenient process for preparation of optically pure aryl 2-pyridyl sulfoxides 2947
Shibuya M. see Sakai Y. 4363
Shibuya S. see Kano S. 233
Shide A. see Otaka A. 1223
Shieh W.-C. see Knapp S. 3627
Shigemori H. see Murata O. 3539
Shigemori N. see Fujii N. 4969
Shih T. L. Holmes M. A. Mrozik H. and **Fisher M. H.** Synthesis of an avermectin–nemadectin hybrid 3663
Shih Y.-E. see Harris K. J. 3941
Shim S. B. see Baldwin J. E. 1379
Shim S. C. see Kwon J. H. 6719
Shima H. see Akiyama T. 5593
Shimada N. see Kitagawa M. 3531
Shimao I. see Kuroda S. 655
Shimazu M. see Sawai H. 6905
Shimidzu T. see Yamana K. 6347
Shimizu H. Hamada K. Ozawa M. Kataoka T. Hori M. Kobayashi K. and **Tada Y.** Reactions of azathiabenzene anion with electrophiles. Formation and X-ray analysis of novel heterocyclic compounds from the reaction with carboxylic ester 4359
Shimizu H. Miyazaki S. Kataoka T. and **Hori M.** A polar cycloaddition of 2-thianaphthylium ions with 1,3-dienes and some properties of the cycloadducts 5571
Shimizu H. see Kataoka T. 105
Shimizu I. see Nagasawa K. 4937
Shimizu M. see Fujisawa T. 399
Shimizu M. see Fujisawa T. 7055
Shimizu M. see Fujisawa T. 7563
Shimizu M. see Yamada S. 2379
Shimizu M. Watanabe Y. Orita H. Hayakawa T. and **Takehira K.** A facile synthesis of 4-alkoxymethylphenols by a copper(II)-acetoxime catalyst/O_2 system 2053
Shimizu T. see Hasegawa E. 2029
Shimma N. see Aoki M. 4737
Shimmin P. A. see Harger M. J. P. 4769
Shimono N. see Yoshikawa K. 7059
Shin-Ike T. see Fujiwara S. 3503
Shin-ya K. Furihata K. Hayakawa Y. Seto H. Kato Y. and **Clardy J.** The structure of benthocyanin A. A new free radical scavenger of microbial origin 943
Shinada T. see Miyata O. 3519
Shindo M. see Tomioka K. 3095
Shinkai I. see DeCamp A. E. 1867
Shinkai S. see Arimura T. 5111
Shinkai S. see Iwamoto K. 830
Shinozuka K. Morishita H. Yamazaki T. Sugiura Y. and **Sawai H.** Enantiomeric bleomycin model compounds bearing long alkyl-chain 6869
Shioiri T. see Hamada Y. 5983
Shioiri T. see Hamada Y. 931
Shioiri T. see Hayashi K. 7287
Shipman M. see Motherwell W. B. 1103
Shirahama H. see Hashimoto K. 2625
Shirahama H. see Morimoto Y. 2909
Shirai H. see Aoki M. 4737
Shirakawa K. see Yoda H. 3401
Shiratsuchi M. see Takahashi Y. 1067
Shiro M. see Kanematsu K. 1351
Shiro M. see Nishizawa M. 211
Shiro M. see Ochiai M. 1327
Shiro M. see Uemura M. 4569
Shishido K. see Sakai Y. 4363
Shishido Y. see Aoyagi S. 4325
Shitikova O. V. see Kasatkin A. N. 4591
Shizuri Y. see Maki S. 4973
Shizuri Y. see **Matsunaga K.** 6883
Shizuri Y. see Suda H. 2791
Shobana N. see Katritzky A. R. 4247
Shoelson S. E. Chatterjee S. Chaudhuri M. and **Burke, Jr. T. R.** Solid-phase synthesis of nonhydrolyzable phosphotyrosyl peptide analogues with N^{α}-Fmoc-(*O,O*-di-*t*-butyl)phosphono-*p*-methylphenylalanine 6061
Shoji T. see Kusumoto T. 939
Shono T. Kise N. and **Fujimoto T.** Electroreductive intermolecular coupling of ketones with O-methyl oximes. A convenient route to synthesis of 2-amino alcohols 525
Shono T. Kise N. and **Oka H.** Electroreductive coupling of halofluoro compounds with aldehydes 6567
Shono T. Matsumura Y. and **Fujita T.** A new synthesis of optically active β-mercaptocarboxylic acid esters 6723
Shono T. Nozoe T. Yamaguchi Y. Ishifune M. Sakaguchi M. Masuda H. and **Kashimura S.** A novel electroreductive alkylation of cycloheptatriene systems and its application to facile synthesis of β-thujaplicin 1051
Showalter H. D. H. Winters R. T. Sercel A. D. and **Michel A.** Facile synthesis of thioglucose analogs of the anticancer agent etoposide 2849
Shudo K. see Endo Y. 2803
Shudo K. see Endo Y. 4517
Shuker A. J. see Pattenden G. 6625
Shulman-Roskes E. M. see Posner G. H. 6489
Sicking W. see Sustmann R. 1401
Siddiqui M. N. see Hwang J. S. 3711
Sie E.-R. H. B. see Moody C. J. 6947
Sieber P. and **Riniker B.** Protection of carboxamide functions by the trityl residue. Application to peptide synthesis 739
Siedlecki J. M. see Coleman R. S. 3033
Sierakowski C. see Maier G. 1961
Sierra M. A. see Alcaide B. 803
Sigman M. E. Zingg S. P. Pagni R. M. and **Burns J. H.** Photochemistry of anthracene in water 5737
Sih C. J. see Harris K. J. 3941
Sih C. J. see Holdgrün X. K. 3465
Sikorski J. A. see Pansegrau P. D. 2589
Silveira C. C. Lenardão E. J. Comasseto J. V. and **Dabdoub M. J.** Friedel-Crafts reaction of

α-(phenylseleno)carboethoxy methyl compounds 5741
Silverberg L. J. see Taber D. F. 4227
Simándi L. I. see Besenyei G. 5833
Simig G. see Schlosser M. 1965
Simig G. and **Schlosser M.** 3-Amino-2-arylpropanoic acids by electrophilic substitution of 2-arylethyl-amines at the benzylic position 1963
Simmonds M. S. J. see Cork A. 129
Simoneau B. see Guindon Y. 27
Simoneau B. see Guindon Y. 5453
Simonet J. see Belkasmioui A. 2481
Simonet J. see Cariou M. 4913
Simonet J. see Chapuzet J.-M. 7405
Simonet-Gueguen N. see Chapuzet J.-M. 7405
Simoni D. see Aghazade Tabrizi M. 683
Simonyan S. O. see Smit W. A. 2105
Singh A. K. see Rama Rao A. V. 4393
Singh G. see Mekki B. 5143
Singh G. P. see Laszlo P. 3167
Singh N. P. see Lambs L. 2637
Singh O. V. Kapil R. S. Garg C. P. and **Kapoor R. P.** Oxidative rearrangement of 2-spirochromanones; a novel route for the synthesis of tetrahydroxanthones 5619
Singh P. R. see Khanna R. K. 5449
Singh R. see Givens R. S. 7013
Singh S. B. Cordingley M. G. Ball R. G. Smith J. L. Dombrowski A. W. and **Goetz M. A.** Structure and stereochemistry of thysanone: a novel human rhinovirus 3C-protease inhibitor from *Thysanophora penicilloides* 5279
Singh S. P. see Sain B. 5151
Singh U. Ghosh S. K. Chadha M. S. and **Mamdapur V. R.** A new convenient approach to peptide synthesis using a diselenide and a phosphine 255
Singleton D. A. Huval C. C. Church K. M. and **Priestley E. S.** Methylenecyclopropane-carboxylates and -dicarboxylates, efficient reagents for the [3+2] methylenecyclopentane annulation of unactivated and electron-rich alkenes 5765
Singleton D. A. and **Martinez J. P.** 2-Trimethylsilyvinylboranes: highly reactive and selective Diels–Alder equivalents of 2-trimethylsilylvinyl alcohol and acetylene 7365
Singleton F. L. see Stierle A. A. 4847
Sinibaldi M.-E. see Troin Y. 6129
Sinou D. see Safi M. 2025
Sirimanne S. R. see Smith M. J. 991
Sisti M. see Jommi G. 6969
Škaric D. see Škaric V. 1821
Škaric V. Caplar V. Škaric D. and **Zinic M.** From nucleosides, their acyclo- and anhydro-analogues to chiral complementary lariat ethers 1821
Skerlj R. see Paquette L. A. 5259
Skowronska A. see Dybowski P. 4385
Skrydstrup T. see Bénéchie M. 7535
Slawin A. M. Z. see Ashton P. R. 6235
Sleiter G. see Baciocchi E. 2647
Slim G. C. see Curtis N. R. 537
Sliwa H. see Billeret D. 627
Sliwa H. see Dennin F. 4307
Smadja W. Zahouily M. Journet M. and **Malacria M.** Acyclic diastereofacial selection in radical addition 3683
Smalley R. K. see Luheshi A.-B. N. 4056
Smallheer J. M. see Wuonola M. A. 5481
Smit W. A. see Veretenov A. L. 2109
Smit W. A. Buhanjuk S. M. Simonyan S. O. Shashkov A. S. Struchkov Y. T. Yanovsky A. I. Caple R. Gybin A. S. Anderson L. G. and **Whiteford J. A.** An efficient protocol for the synthesis of fenestrane derivatives 2105
Smit W. A. see Smoliakova I. P. 2601
Smith C. see Elliott R. P. 6227
Smith D. A. and **Houk K. N.** $LiBF_4$: a mild Lewis acid for intramolecular Diels–Alder reactions 1549
Smith D. A. and **Ulmer, II C. W.** Theoretical studies of the Nazarov cyclization-I. 1,4-Pentadien-3-one 725
Smith D. A. and **Vijayakumar S.** Molecular modeling of intramolecular hydrogen bonding in simple oligoamides—I. *In vacuo* 3613
Smith D. A. and **Vijayakumar S.** Molecular modeling of intramoleular hydrogen bonding in simple oligoamides—II. GB/SA CH_2Cl_2 3617
Smith D. T. see Gung B. W. 13
Smith D. T. see Gung B. W. 453
Smith G. see Escher A. 3583
Smith J. L. see Singh S. B. 5279
Smith K. Pelter A. and **Norbury A.** Hindered organoboron groups in organic synthesis–XVI. Preparation and use of lithium ditripylethylhydroborate for the diastereoselective reduction of cyclohexanones 6243
Smith K. see Elmorsy S. S. 4175
Smith K. see Pelter A. 6239
Smith M. B. see Hill T. G. 6823
Smith M. J. Mazzeala E. P. Farrell T. J. Sphon J. A. Page S. W. Ashley D. Sirimanne S. R. Hill, Jr. R. H. and **Needham L. L.** 1,1'-Ethylidenebis(L-tryptophan), structure determination of contaminant '97'-implicated in the *Eosinophilia-myalgia* syndrome (EMS) 991
Smith S. C. see Ley S. V. 6183
Smith W. B. see Xu L. 4461
Smith, III A. B. Duan J. J.-W. Hull K. G. and **Salvatore B. A.** Calyculin synthetic studies. Stereoselective construction of the C(14)–C(25) spiroketal subunit 4855
Smith, III A. B. Gallagher R. T. Keenan T. P. Furst G. T. and **Dormer P. G.** Structures of breynins A and B, architecturally complex, hypocholesterolemic spiroketal glycosides. A revised formulation of breynin B 6847
Smith, III A. B. Salvatore B. A. Hull K. G. and **Duan J. J.-W.** Calyculin synthetic studies–II. Stereocontrolled assembly of the C(9)–C(13) dithiane and C(26)–C(37) oxazole intermediates 4859
Smith, III A. B. Wood J. L. Gould A. E. Omura S. and **Komiyama K.** Isolation and structure determination of (+)-trienomycin F. An endgame synthetic strategy for the trienomycin family of antitumor antibiotics 1627
Smith, III A. B. Wood J. L. and **Ómura S.** (+)-Mycotrienins I and II: relative and absolute stereochemistry 841
Smoliakova I. P. Smit W. A. and **Osinov B.** Arylsulfenyl chloride mediated coupling of three nucleophilic fragments with the formation of two C-C bonds 2601
Snatzke G. see Beisswenger R. 3159
Snieckus V. see Wang X. 4879
Snieckus V. see Wang X. 4883
Snieckus V. see Zhao B. 5277
Snook B. M. see Gung B. W. 453

Snowden R. L. and **Linder S. M.** A formal synthesis of (±)-Ambrox® 4119
Snyder J. K. see Benson S. C. 5885
Snyder J. K. see Lee J. 5899
Soai K. Okudo M. and **Okamoto M.** Enantioselective conjugate addition of diethylzinc to enones using chiral β-aminoalcohol as chiral catalyst or ligand 95
Soboleva N. A. see Kononenko G. P. 1893
Sobral A. J. F. do N. see Rocha Gonsalves A. M. d'A. 1355
Sodeoka M. see Corey E. J. 7005
Söderberg B. C. see Nyström J.-E. 5247
Soderquist J. A. and **León-Colón G.** Z-Trimethylsilyl styrenes and 1,3-dienes via the Suzuki reaction 43
Soderquist J. A. see Rivera I. 2311
Soderquist J. A. see Santiago B. 3457
Soderquist J. A. and **Lopez C.** *trans* Alkenes and vinylsilanes from *trans*-α-stannyl epoxides 6305
Soderquist J. A. and **Rosado I.** The conjugate addition of higher-order organocuprates to α-methoxyenones 4451
Soejima S. see Kanematsu K. 4761
Sohmiya H. see Ando T. 6379
Solé D. and **Bonjoch J.** *cis*-3a-(*o*-Nitrophenyl)octahydroindol-4-ones. Building blocks for the synthesis of indole alkaloids 5183
Solkolic L. Modric N. and **Poje M.** Regiochemical course of chemical and enzymic uricolysis to allantoin. A non-degradative ^{13}C-NMR evidence 7477
Solladié G. Colobert F. Ruiz P. Hamdouchi C. Carreño M. C. and **García Ruano J. L.** (*S,S*)-bis-*p*-Tolylsulfinylmethane and carbonyl compounds: reactivity and asymmetric induction 3695
Solladié G. Fernandez I. and **Maestro C.** Asymmetric synthesis of the C-3/C-9 fragment of (-) aspicilin 509
Solladié G. and **Beri V.** Synthesis of *E* functionalized prenyl orthothioesters 6329
Solomon M. S. and **Hopkins P. B.** Stereocontrolled syntheses of C-linked deoxyribosides of 2-hydroxy-pyridine and 2-hydroxyquinoline 3297
Solujic S. Sukdolak S. and **Ratkovic Z.** Stereospecific acetoxylation of 4-methyl-4-dichloromethyl-5-(methoxycarbonyl)methyl-2-cyclohexen-1-one with lead(IV) acetate 4577
Somfai P. He H. M. and **Tanner D.** A potential carbapenem intermediate from L-glutamic acid 283
Sommerdijk N. A. J. M. see Lange J. H. M. 3127
Sonawane H. R. Nanjundiah B. S. Shah V. G. Kulkarni D. G. and **Ahuja J. R.** Synthesis of naturally-occurring (-)-$\Delta^{9(12)}$-capnellene and its antipode: an application of the photo-induced vinylcyclopropane-cyclopentene rearrangement 1107
Sonoda N. see Fujiwara S. 3503
Sonoda N. see Nakahira H. 229
Sopchik A. E. see Huang Y. 3900
Sopchik A. E. see Huang Y. 899
Soria J. J. see Goldsmith D. 2457
Soto J. L. see Victory P. 5375
Souchaud C. see Cossy J. 1315
Souchez J. P. see Rose-Munch F. 6323
Souflaoui M. see Eddaif A. 3709
Souflaoui M. see Stambouli A. 1723
Souflaoui M. Syassi B. Daou B. et **Baba N.** Synthèse 'one-pot' de dérivés halogénés du 4,4-dioxyde isoxazolino-[4,5-*b*]benzo[*b*] thiophènes 3699
Soufyane M. see Lévy J. 5081
Soukup M. and **Widmer E.** Preparation of (7*Z*)- and (7*Z*,11*Z*)-vitamin A 4117
Soulié J. see Bouchard H. 5957
Soumillion J. Ph. see Art J. F. 1425
Southgate R. see Bateson J. H. 2065
Southgate R. see Berry P. D. 2683
Soyer N. see Salle M. 2897
Spalluto G. see Barco A. 2517
Spanevello R. A. Hirschmann R. Raynor K. Reisine T. and **Nutt R. F.** Synthesis of novel, highly potent cyclic-hexapeptide analogs of soma tostatin. Potential application of orthogonal protection for affinity chromatography 4675
Sparfel D. see Cossy J. 1315
Sparks M. A. and **Panek J. S.** Lipase mediated resolution of chiral (*E*)-vinylsilanes: an improved procedure for the production of *(R)*- and *(S)*-*(E)*-1-trialkylsilyl-1-buten-3-ol derivatives 4085
Speckamp W. N. see Koot W.-J. 401
Speckamp W. N. see Lolkema L. D. M. 1491
Speckamp W. N. see Roos E. C. 6633
Speckamp W. N. see Rutjes F. P. J. T. 6629
Speckamp W. N. see Udding J. H. 3123
Sphon J. A. see Smith M. J. 991
Spilling C. D. see Koeller K. J. 6297
Spisani S. see Zecchini G. P. 4375
Srebnik M. Stereospecific preparation of trisubstituted allylic alcohols by alkene transfer from boron to zinc 2449
Sridharan V. see Coulter T. 5417
Sridharan V. see Grigg R. 687
Sridharan V. see Grigg R. 2545
Sridharan V. see Grigg R. 3855
Sridharan V. see Grigg R. 3859
Srikrishna A. Hemamalini P. and **Sharma G. V. R.** A regio and stereospecific radical annulation route to chiral tricyclo-[4.3.1.$0^{3,7}$]decane (isotwistane) system synthesis of (+)-10-α-naphthyl-5-*epi*-pupukean-9-one 6609
Srinivas N. R. see Gurjar M. K. 3409
Srinivasan A. see Gustavson L. M. 5485
Srinivasan C. see Pitchumani K. 2975
Srivastava R. P. and **Hajdu J.** Stereospecific synthesis of ether phospholipids. Preparation of 1-*O*-(3'-carboxypropyl)-glycero-3-phosphoserine from glyceric acid 6525
Srivastava R. R. see Iqbal J. 1663
St Clair M. H. see Almond M. R. 5745
Staab A. J. see Shea K. J. 2715
Staab H. A. Döhling A. and **Krieger C.** Electron donor-acceptor [3.3]metacyclophanes: charge-transfer absorption of *syn*- and *anti*-isomers 2215
Staab H. A. see Asami M. 2117
Stadlwieser J. see Kienzle F. 551
Stahnke M. see Künzer H. 1949
Stambouli A. Chastrette M. et **Souflaoui M.** Réactions de cycloaddition [4+2] sous micro-ondes des dérivés du glyoxal 1723
Standen S. P. see Jackson R. F. W. 5393
Stang P. J. see Zhdankin V. V. 733
Stang P. J. Zhdankin V. V. Tykwinski R. and **Zefirov N. S.** Iodosyl trifluoromethane-sulfonate—an efficient reagent for the single step preparation of diaryl iodonium triflate salts 7497
Stanoeva E. see De Kimpe N. 3879
Starbuck K. E. see Hungate R. W. 6851

Stærkær G. Jakobsen M. H. Olsen C. E. and **Holm A.** Solid phase peptide synthesis of selectively phosphorylated peptides 5389
Starkemann C. see Oppolzer W. 61
Staveski M. M. see Colon M. 4447
Stavropoulos G. see Barlos K. 471
Stavropoulos G. see Barlos K. 475
Stec W. J. see Baraniak J. 137
Stec W. J. see Baraniak J. 4193
Steckhan E. see Frede M. 5063
Steel A. J. see Roberts B. P. 5385
Steel P. J. see Coxon J. M. 7115
Steensma D. H. see Johnson C. R. 2597
Steensma D. H. see Johnson C. R. 3931
Stefanelli S. see Gambacorta A. 6805
Steglich W. see Apitz G. 3163
Steglich W. see Justus K. 5781
Steinmeyer A. see Neef G. 5073
Stemp G. see Orlek B. S. 4045
Stephanidou-Stephanatou J. see Mitkidou S. 4603
Stephenson G. R. Owen D. A. Finch H. and **Swanson S.** Organometallic equivalents of cyclohexenone di-cation synthons for the total synthesis of *O*-methyljoubertiamine 1291
Stephenson G. R. Voyle M. and **Williams S.** A route to acyclic tricarbonyl(η^5-trienyl)iron(1+) complexes for use in polyene asymmetric synthesis 5265
Stepuszek D. J. see Donaldson W. A. 4089
Sterner O. see Hansson T. 2541
Sternfeld F. see Lohse P. 615
Stevens I. W. see Richard J. P. 4255
Stevenson B. K. see Freeman P. K. 5705
Stevenson P. J. see Boyd D. R. 3887
Stevenson P. J. see Coates B. 2827
Stevenson P. J. see Coates B. 4199
Stezowski J. J. see Lieberknecht A. 2113
Stierle A. A. Cardellina, II J. H. and **Singleton F. L.** Benzothiazoles from a putative bacterial symbiont of the marine sponge *Tedania ignis* 4847
Stierle A. A. see Cardellina, II J. H. 2347
Still I. W. J. see McNulty J. 4875
Stöckigt J. see Aimi N. 4949
Stocks M. J. see Bartholomew D. 4795
Stocks M. J. see Bartholomew D. 4799
Stoddart J. F. see Ashton P. R. 6235
Stoller A. Mioskowski C. Sepulchre C. and **Bellamy F.** Synthesis of a rigidified fatty acid derivative containing a highly strained 1,3-bis methylene-cyclopentane moiety 495
Stolze D. A. Perron-Sierra F. Heeg M. J. and **Albizati K. F.** Model studies towards the synthesis of aplysiatoxin. Spiro-conformational control in the reactivity of C_2-oxidized spiroketals 4081
Stone M. J. Maplestone R. A. Rahman S. K. and **Williams D. H.** Synthesis of 3,5-dihydroxyphenylglycine derivatives and the C-terminal dipeptide of vancomycin 2663
Storer R. see Bamford M. J. 271
Storer R. see Choi S. 3569
Storer R. see Jones M. F. 247
Storer R. see Wang Y. 1675
Storey J. M. D. see Clark A. J. 2829
Storr R. C. see Chaloner L. M. 7609
Stout T. J. see Kigoshi H. 2427
Stracker E. C. and **Zweifel G.** Stereoselective syntheses of di-, tri-, and tetrasubstituted enediynes from enynyl iodides via Pd-catalyzed coupling reactions 3329
Stratakis M. Orfanopoulos M. and **Foote C. S.** Nucleophilic oxygen transfer from a perepoxide to phosphites 863
Stratakis M. see Orfanopoulos M. 2
Stratakis M. see Orfanopoulos M. 7321
Straus D. A. see Larson A. L. 5893
Street J. P. Synthesis of a tetraimidazole containing macrocycle: an new ligand class 3333
Strekowski L. see Battiste M. A. 5303
Strömberg R. see Almer H. 3723
Struchkov Y. T. see Smit W. A. 2105
Struzka V. see Meyers A. I. 5501
Stütten J. see Dehmlow E. V. 6105
Stütz A. E. see Gradnig G. 4889
Su D.-B. Duan J.-X. and **Chen Q.-Y.** Methyl chlorodifluoroacetate, a convenient trifluoromethylating agent 7689
Su T.-L. Dziewiszek K. and **Wu T.-S.** Synthesis of glyfoline, a constituent of *Glycosmis citrifolia* (Willd.) Lindl. and a potential anticancer agent 1541
Suárez E. see Francisco C. G. 3413
Suárez-Gea M. L. see Herranz R. 7579
Subbaraju G. V. Manhas M. S. and **Bose A. K.** An improved synthesis of (±)-dihydro-actinidiolide 4871
Subramanian L. R. see García Martínez A. 5931
Suda H. Matsunaga K. Yamamura S. and **Shizuri Y.** Structure of a new topoisomerase II inhibitor BE 10988 2791
Suemune H. see Matsukuma A. 7559
Suemune H. see Nagumo S. 5585
Suemune H. see Yamamoto T. 515
Suffert J. see Brückner R. 1449
Suffert J. and **Brückner R.** Palladium catalyzed couplings of enol triflates with alkynes under very mild conditions - the stereoselective synthesis of dienediynes from bis(enoltriflates) 1453
Suffert J. and **Ziessel R.** Towards molecular electronics: a new family of aromatic polyimine chelates substituted with alkyne groups 757
Suga H. Shi X. Fujieda H. and **Ibata T.** Reactions of 5-alkoxyoxazoles with aldehydes in the presence of Lewis acid: regio- and stereoselective formation of 4-alkoxycarbonyl-2-oxazolines 6911
Sugai T. see Kakeya H. 1343
Sugai T. and **Ohta H.** Lipase-mediated efficient preparation of both enantiomers of 2-acetoxytetracosanoic acid, the intermediate for sphingolipid synthesis 7063
Sugama K. see Murata O. 3539
Sugawara F. see Kim K.-W. 6715
Sugawara K. see Hatakeyama S. 4509
Sugawara K. see Hatakeyama S. 4513
Sugihara T. see Takano S. 2797
Sugimori A. see Tono M. 4023
Sugimoto N. see Kanematsu K. 1351
Sugimoto Y. see Okamura H. 5137
Sugimura H. Osumi K. Yamazaki T. and **Yamaya T.** Coupling reaction of 1-thipento furanosides with silylated pyrimidine bases by activation with N-bromosuccinimide: synthesis of 3'-azido-3'-deoxythymidine and its related nucleoside analogs 1813

Sugimura H. Osumi K. Yamazaki T. and **Yamaya T.** Synthesis of 3-azido- and 3-fluoro-2,3-dideoxy-1-thio-D-*erythro*-pentofuranosides and their 2-*C*-substituted derivatives 1809
Suginome H. see Orito K. 5999
Suginome H. Seko S. Konishi A. and **Kobayashi K.** One-step formation of furo[3,2-*c*]quinolin-4(5*H*)-ones by a new regioselective [2+3] photoaddition of methoxy-substituted 4-hydroxyquinolin-2-one with alkenes 5115
Sugiura Y. see Shinozuka K. 6869
Sugiyama H. see Chan K. L. 7719
Sugiyama K. see Okada Y. 2367
Sugiyama T. see Tono M. 4023
Sujino K. see Yokoyama M. 7269
Sukdolak S. see Solujic S. 4577
Sukirthalingam S. see Grigg R. 2545
Sukirthalingam S. see Grigg R. 3855
Sullivan R. W. see Xu S. 1129
Sun C.-J. see Wu P.-L. 4137
Sun L.-Q. see Zhou W.-S. 6745
Sun M.-L. see Yeh M.-C. P. 113
Sun S. see Giese B. 6097
Sun X.-R. Luo H.-W. Sakai T. and **Niwa M.** Paramiltioic acid, a novel rearranged norabietanoid from *Salvia paramiltiorrhiza* 5797
Sundberg R. J. Desos P. Gadamasetti K. G. and **Sabat M.** Photoactivated C16–C21 fragmentation of catharanthine 3035
Sunkara P. S. see Liu P. S. 5853
Sunkara P. S. see Liu P. S. 719
Suñer G. see Saá J. M. 7313
Suryawanshi S. N. Dhami T. S. and **Bhakuni D. S.** Dual participation of *in situ* generated-*p*-benzoquinones with substituted furanoid vinyl glycals in cycloaddition reaction 1519
Sustmann R. Sicking W. Lamy-Schelkens H. and **Ghosez L.** *endo/exo* Selectivity in cycloadditions of 2,6-bis-silyloxy-3,4-dihydropyridine with methylacrylate 1401
Suzukamo G. see Tanabe Y. 379
Suzukamo G. see Tanabe Y. 383
Suzuki A. see Hara S. 6749
Suzuki A. see Ishiyama T. 6923
Suzuki F. see Kuroda T. 6915
Suzuki H. Ishibashi T. Murashima T. and **Tsukamoto K.** *ortho*-Selective nitration of acetanilides with nitrogen dioxide in the presense of ozone 6591
Suzuki H. see Tani H. 2039
Suzuki H. see Tokitoh N. 2049
Suzuki I. see Uyehara T. 4371
Suzuki K. see Ikeda I. 6865
Suzuki K. see Kondo T. 6375
Suzuki K. see Matsumoto T. 4337
Suzuki K. see Matsumoto T. 5103
Suzuki K. see Matsumoto T. 6735
Suzuki M. see Fujita M. 1463
Suzuki S. see Mandai T. 7687
Suzuki T. Sato O. Hirama M. Yamamoto Y. Murata M. Yasumoto T. and **Harada N.** Enantioselective synthesis of the AB ring fragment of gambiertoxin 4B. Implication for the absolute configuration of gambiertoxin 4B and ciguatoxin 4505
Suzuki T. see Maki S. 4973
Suzuki Y. see Ando T. 5107
Suzuki Y. see Hosaka H. 785
Swaminathan S. see Brown H. C. 6691
Swaminathan S. see Herz J. E. 3923
Swann P. F. see Xu Y.-Z. 2817
Swanson D. R. see Negishi E. 4453
Swanson S. see Stephenson G. R. 1291
Swarbrick T. M. Markó I. E. and **Kennard L.** Tandem pericyclic reactions. Novel and efficient methodology for the rapid assembly of complex polycyclic systems 2549
Swenson R. E. see Perlman K. L. 7663
Swersey J. C. Barrows L. R. and **Ireland C. M.** Mamanuthaquinone: an antimicrobial and cytotoxic metabolite of *Fasciospongia* sp. 6687
Syassi B. see Soufiaoui M. 3699
Syguła A. see Rabideau P. W. 5659
Symons M. C. R. see Bowman W. R. 2285
Szabò L. Li Y. and **Polt R.** O-Glycopeptides: a simple β-stereoselective glycosidation of serine and threonine via a favorable hydrogen bonding pattern 585
Szántay Cs. see Poppe L. 2643
Szántay, Jr. C. Moldvai I. Fishwick C. W. G. and **Hill D. R.** Formation and mechanistic implication of a novel thiaazabicyclooctane derivative during the cycloaddition of N-acetyl cinnamic acid thioamide 2529
Szili T. see Ács M. 7325
Szönyi S. Nasreddine M. Coudures C. et **Cambon A.** Obtention d'un nouvel isomère d'une bromohydrine F-alkylée 3047
Tabael S.-M. H. Pittman, Jr. C. U. and **Mead K. T.** Dehalogenation of organic compounds—II. The metal catalyzed sodium borohydride or sodium alkoxyborohydride/-tetraethylene glycol/KOH dechlorination of Mirex 2727
Taber D. F. and **Silverberg L. J.** Enantioselective reduction of β-keto esters 4227
Tabuchi T. see Inanaga J. 6557
Tachdjian C. see Barton D. H. R. 2703
Tachibana K. see Sasaki M. 6873
Tachon C. see Etemad-Moghadam G. 3687
Tada Y. see Shimizu H. 4359
Taddei M. see Franciotti M. 6783
Taddei M. see Nativi C. 1583
Taddei M. see Nativi C. 2265
Tagaki W. and **Yamamoto H.** Polyamino-β-cyclodextrin as a model of aldolase 1207
Tagliavini E. see Boldrini G. P. 1229
Taguchi T. see Hanzawa Y. 4143
Tagusagawa F. see Groutas W. C. 6093
Tahar M. see Kagan H. B. 5959
Tahir S. H. Olmstead M. M. and **Kurth M. J.** α-Allylated chiral thioxanones: diastereoselective preparation by an *S*-alkylation/[2,3]-sigmatropic rearrangement sequence 335
Taillepied I. see Chapuzet J.-M. 7405
Tajima Y. see Konosu T. 7545
Takabe K. see Yoda H. 3401
Takabe K. see Yoda H. 6771
Takahashi K. and **Ogiyama M.** A novel [3]radialene derivative with an amphoteric redox property. A dihydrothiophenediylidene-extended trisbenzoquino-cyclopropane 3507
Takahashi M. Kuroda T. Ogiku T. Ohmizu H. Kondo K. and **Iwasaki T.** A new synthesis of unsymmetrical diphenic acid derivatives: template-directed intramolecular Ullmann coupling reaction 6919
Takahashi N. see Bhaskar K. V. 6203
Takahashi N. see Kim K.-W. 6715
Takahashi N. see Saito S. 667
Takahashi O. see Fukumasa M. 1059
Takahashi O. and **Kikuchi O.** Three-electron three-orbital three-configuration approach to dissociative reactivity of arylalkane radical cations 4933
Takahashi S. Terayama H. and **Kuzuhara H.** Stereocontrolled synthesis of (−)-allosamizoline

using D-glucosamine as a chiral template 5123
Takahashi T. see Tobe Y. 359
Takahashi Y. Ishiwata H. Deushi T. Nakayama M. and **Shiratsuchi M.** Synthesis of novel antibiotic maniwamycin A. 1067
Takahashi Y. see Miyaji K. 4557
Takaki I. see Ishii A. 4313
Takaku H. see Hosaka H. 785
Takamuku S. see Shi M. 6899
Takano S. Iwabuchi Y. and **Ogasawara K.** The Katsuki-Sharpless asymmetric epoxidation of (*E*)-2,5-dihydroxy-2,5-dimethyl-3-hexene 3527
Takano S. see Hatakeyama S. 4509
Takano S. see Hatakeyama S. 4513
Takano S. Sugihara T. and **Ogasawara K.** The first enantiocontrolled synthesis of (3*S*,8*S*)-(−)-4,6-decadiyne-1,3,8-triol isolated from a toxic mushroom *Gymnopilus spectabilis* 2797
Takasugi Y. see Fukuzawa A. 5597
Takaya H. see Chiba T. 4745
Takaya H. see Mashima K. 3101
Takaya H. see Zhang X. 7283
Takayama H. see Aimi N. 4949
Takebe Y. see Nakamura K. 4941
Takeda K. Kawanishi E. Nakamura H. and **Yoshii E.** Total synthesis of tetronolide, the aglycon of tetrocarcins 4925
Takeda T. Kanamori F. Masuda M. and **Fujiwara T.** The vinylation of arenes with 1-(phenylthio)vinylstannanes 5567
Takeda T. Kanamori F. Matsusita H. and **Fujiwara T.** The Friedel–Crafts reaction of 1-(phenylthio)vinyl chlorides 6563
Takehara S. see Kusumoto T. 939
Takehira K. see Shimizu M. 2053
Takei H. see Asaoka M. 7567
Takemura T. see Ando T. 5107
Takeuchi K. see Kitagawa T. 3187
Takeuchi K. see Komatsu K. 6767
Takeuchi M. see Ishibashi H. 1725
Takeya K. see Itokawa H. 1803
Takeyama Y. see Matsumoto K. 4545
Takezoe K. see Sato T. 4003
Takita T. see Kitagawa M. 3531
Takita T. see Nishiyama S. 2141
Takita T. see Watanabe T. 2399
Takuma K. see Fujioka H. 5367
Takuwa A. see Nishigaichi Y. 2383
Tallec A. see Abouelfida A. 2225
Tamai T. see Nakata M. 6015
Tamai T. see Toshima K. 6155
Tamareselvy K. see Abramovitch R. A. 5251
Tamaru Y. see Kimura M. 6359
Tamm C. see Shao X. 2891
Tamura Y. see Kita Y. 6019
Tan W. see Cane D. E. 5457
Tanabe K. see Araki S. 6587
Tanabe Y. Kubota Y. Sanemitsu Y. Itaya N. and **Suzukamo G.** Stereoselective synthesis of anti-PAF active thiazolidin-4-ones via cyclo-condensation of alkyl α-mercaptocarboxylates with arylimines 383
Tanabe Y. Suzukamo G. Komuro Y. Imanishi N. Morooka S. Enomoto M. Kojima A. Sanemitsu Y. and **Mizutani M.** Structure-activity relationship of optically active 2-(3-pyridyl)thiazolidin-4-ones as a PAF antagonist 379
Tanada Y. see Hamada Y. 5983
Tanaka F. see Fuji K. 7281
Tanaka H. Kameyama Y. Kosaka A. Yamauchi T. and **Torii S.** A convenient synthesis of 2-*exo*-methylene penam, a potent intermediate for new β-lactam antibiotics synthesis 7445
Tanaka H. see Haraguchi K. 3391
Tanaka H. see Haraguchi K. 777
Tanaka J. see Ikeda I. 6865
Tanaka J. see Pham A. T. 4843
Tanaka K. see Fuji K. 7277
Tanaka M. see Fujii N. 4969
Tanaka M. and **Sakai K.** Synthesis of (DL)-trichodiene using novel ring transformation reaction 5581
Tanaka S. see Harada T. 1219
Tanaka S. see Kimura M. 6359
Tanaka T. Hirama M. Ueno M. Imajo S. Ishiguro M. Mizugaki M. Edo K. and **Komatsu H.** Proton NMR studies on the chromophore binding structure in neocarzinostatin complex 3175
Tanaka Y. see Aoki M. 4737
Tanaka Y. see Fuchikami T. 1199
Tani H. Masumoto K. Inamasu T. and **Suzuki H.** Tellurium tetrachloride as a mild and efficient catalyst for dithioacetalization 2039
Tani S. see Ochiai M. 4753
Taniguchi M. Oshima K. and **Utimoto K.** Formation of alkylated triphenylsilylalkenes from the reaction of triphenylsilyl-substituted oxiranyl anion with organoaluminium reagents 2783
Taniguchi Y. see Kita Y. 6019
Tanimoto S. see Toshimitsu A. 4317
Tanker M. see Nasution M. P. 5915
Tanner D. see Somfai P. 283
Tanner D. and **Birgersson C.** C_2-Symmetric aziridines as efficient chiral auxiliaries 2533
Tao X. L. see Nishiyama S. 4151
Taplolas D. see Pathirana C. 2323
Taraporewala I. B. Thiazolo[5,4-*b*]acridines and thiazolo[4,5-*b*]acridines: probable pharmacophores of antiviral and anti-tumor marine alkaloids 39
Taticchi A. see Aben R. W. M. 6445
Tatsuta K. see Nakata M. 5363
Tatsuta K. see Nakata M. 6015
Tatsuta K. see Toshima K. 391
Tatsuta K. see Toshima K. 4139
Tatsuta K. see Toshima K. 6155
Tatsuta K. see Toshima K. 6887
Taylor D. K. see Grob C. A. 5945
Taylor E. C. and **Goswami S.** Synthetic studies on the molybdenum cofactor. An efficient total synthesis of (±)-dephospho Form A 7357
Taylor G. M. see Alker D. 1667
Taylor R. A valence bond approach to explaining fullerene stabilities 3731
Teasdale A. see Grigg R. 3859
Teasdale A. see Grigg R. 687
Tebbe M. see Connell R. D. 17
Tebbe M. J. see Wender P. A. 4863
Tejero T. see Garín J. 3263
Tekin J. see Combret J. C. 87
Tellier F. et **Sauvêtre R.** Introduction stéréosélective du groupement trifluorométhyle dans des systèmes insaturés 5963
Tenaglia A. Terranova E. and **Waegell B.** Ruthenium-catalyzed controlled functionalization of the norbornane skeleton 1169
Teodorovic A. V. see Brown H. C. 6691
TePaske M. R. Gloer J. B. Wicklow D. T. and **Dowd P. F.** Leporin A: an antiinsectan N-alkoxypyridone from the sclerotia of *Aspergillus leporis* 5687
Terada M. Mikami K. and **Nakai T.** Enantioselective hetero-Diels-Alder reaction with glyoxylate catalyzed by chiral titanium complex; asymmetric synthesis of the lactone portion of mevinolin and compactin 935
Terada M. see Mikami K. 6571
Terao Y. see Ebiike H. 5805
Terashima S. see Nakatani K. 3405
Terayama H. see Takahashi S. 5123
Terlouw J. K. see Kambouris P. 1487

Terranova E. see Tenaglia A. 1169
Teshima O. see Arimura T. 5111
Teston-Henry M. see Laszlo P. 3837
Texier-Boullet F. see Latouche R. 1179
Tezuka T. and **Isahaya Y.** The STECAR (steric compression-assisted reaction) concept. Ionic deoxygenation reaction via intramolecular proton shift in bornyl α-azohydroperoxide to give camphor hydrazone 4955
Tham F. S. see Schultz A. G. 7499
Thatcher G. R. J. see Campbell A. S. 2207
Thatcher G. R. J. see Davis J. M. 2205
Thea S. see Guanti G. 6943
Theodorakis E. A. see Barton D. H. R. 2585
Theodorakis E. A. see Barton D. H. R. 3321
Thibault P. see Ayer S. W. 6301
Thiébault A. see Boy P. 6705
Thiébault A. see Chahma M. 6121
Thiem J. see Beisswenger R. 3159
Thiemann T. Kohlstruk S. Schwär G. and **de Meijiere A.** [4+2] Cycloadditions of 2-(trialkylsilyloxy)allylidenecyclopropanes-synthesis of spiro[2.5]octan-5-ones 3483
Thijs L. see Dommerholt F. J. 1495
Thijs L. see Dommerholt F. J. 1499
Thoma G. see Curran D. P. 6307
Thomas E. J. see Karim S. 2269
Thompson A. R. see Zmijewski, Jr. M. J. 1621
Thompson C. M. see Green D. L. C. 5051
Thompson D. see Wong C.-H. 4867
Thompson G. D. see Kirst H. A. 4839
Thompson K. L. Chang M. N. Chiang Y.-C. P. Yang S. S. Chabala J. C. Arison B. H. Greenspan M. D. Hanf D. P. and **Yudkovitz J.** Synthesis of δ-lactone oxetane and azetidinone analogs from the naturally occuring β-lactone L-659,699. The preparation of a novel HMG CoA synthase inhibitor 3337
Thompson W. J. see Ghosh A. K. 5729
Thorn S. N. see Garratt P. J. 691
Thornton E. R. see Das G. 5239
Thornton E. R. see Prapansiri V. 3147
Thornton E. R. see Prapansiri V. 6044
Thornton-Pett M. see Guile S. 1381
Thorp H. H. see Sarneski J. E. 1153
Thuong N. T. see Bonfils E. 3053
Thuong N. T. see Hau J. F. 2497
Thurin J. see Hollósi M. 1531
Thurin J. see Urge L. 3445
Tlabi M. et **Zamarlik H.** Synthèse des précocènes en une seule étape 7251
Tidwell T. T. see Allen A. D. 847
Tímár T. see Eszenyi T. 827
Timberlake J. W. see Evilia R. F. 871
Timmerman P. see Groenen L. C. 2675
Timpe H.-J. see Paleta O. 251
Tinant B. see Rousselle D. 907
Tinto W. F. Joh L. Lough A. J. Reynolds W. F. and **McLean S.** A pseudopterane metabolite of *Pseudopterogorgia acerosa* containing an ususually stable diepoxyfuran 4661
Tisnès P. see Cazaux L. 919
Tius M. A. and **Reddy N. K.** Cembrane synthesis. An advanced intermediate for crassin acetate 3605
Tjepkema M. see Gillard J. W. 1145
Tobe T. see Chida N. 1063
Tobe Y. Takahashi T. Kobiro K. and **Kakiuchi K.** Unusual reactions of [6](1,4)naphthalenophane and [6](1,4)anthracenophane with dienophiles 359
Tochtermann W. Peters U. Peters E.-M. Peters K. und **von Schnering H. G.** Synthese optisch aktiver, tricyclischer Piperidin-2,6-dicarbonsäure-Derivate 483
Tochtermann W. see Scholz G. 5535
Todd R. S. see Cliffe I. A. 6789
Toepfer A. see Schmidt R. R. 3353
Togo H. Aoki M. and **Yokoyama M.** Facile radical decarboxylative alkylation of heteroaromatic bases using carboxylic acids and trivalent iodine compounds 6559
Togo H. Fujii M. Ikuma T. and **Yokoyama M.** Novel synthesis of C-nucleosides via radical coupling reaction 3377
Togo H. see Yokoyama M. 7269
Tohjo T. see Kita Y. 2375
Tohma H. see Kita Y. 2035
Tohma H. see Kita Y. 4321
Tola R. F. see Wu S.-Y. 4427
Tokitoh N. Matsuhashi Y. and **Okazaki R.** Novel synthesis and molecular structure of tetraselenastannolanes 6151
Tokitoh N. Matsumoto T. Ichida H. and **Okazaki R.** A novel mode of generation and stereospecific *cis*-[2+2]cycloaddition of an overcrowded germanethione 6877
Tokitoh N. Matsumoto T. Suzuki H. and **Okazaki R.** Unusual 1,3-rearrangement of trimethylsilyl group in the reaction of 2,4,6-tris[bis(trimethylsilyl)methyl]-phenyllithium 2049
Tokitoh N. Matsumoto T. and **Okazaki R.** Synthesis and structure of novel Ge-containing multi-sulfur heterocycles: trithiagermacyclopentane and tetrathiagermacyclohexanes 6143
Tokitoh N. see Okazaki R. 6601
Tokiwa Y. see Miyoshi M. 6007
Tokuda H. see Nishizawa M. 211
Tokumaru K. see Akaba R. 109
Tokunaga M. see Kitamura M. 4163
Tolstikov G. A. see Kasatkin A. N. 4591
Tomasini C. see Amoroso R. 1971
Tominaga Y. Ogata K. Kohra S. Hojo M. and **Hosomi A.** Synthesis and [3+2]cycloadditions of N-(trimethylsilylmethyl)isothioureas: a synthetic equivalent of novel 1,3-dipolar reagent, iminoazomethine ylid 5987
Tomioka K. Inoue I. Shindo M. and **Koga K.** Catalytic asymmetric addition of organolithiums to aldimines 3095
Tomioka K. Kanai M. and **Koga K.** An expeditious synthesis of dolastatin 10 2395
Tomita K. see Okamura H. 5137
Tomlinson L. see Montero V. A. 5309
Tone H. see Kita Y. 6019
Tono M. Aoto H. Matsudaira Y. Sugiyama T. Kajitani M. Akiyama T. and **Sugimori A.** Formation of 2,5-diaryl-1,3-dithiolylium-4-olate in thermal reaction of 4-aryl-1,3,2-oxathiazolylium-5-olate 4023
Tordo P. see Le Moigne F. 3841
Tordo P. see Mercier A. 2125
Torii S. Okumoto H. and **Nishimura A.** Palladium-catalyzed tandem bond forming reaction leading to aromatic ring through diene-yne system 4167
Torii S. Okumoto H. and **Xu L. H.** Palladium-catalyzed carbonylation to form 2-substituted 1,4-dihydro-4-oxo-quinoline 237
Torii S. see Tanaka H. 7445

Torreilles E. see Cristau H.-J. 347
Torres T. and **Schäfer W.** A facile synthesis of alkylidenebutenolides via thermal rearrangement of benzisoxazolequinones 5825
Torrini I. see Zecchini G. P. 4375
Torrini I. see Zecchini G. P. 6779
Toru T. see Kusuda S. 1325
Toshima K. Mukaiyama S. Yoshida T. Tamai T. and **Tatsuta K.** Application of efficient glycosylation of 2,6-anhydro-2-thio sugar to the total synthesis of erythromycin A 6155
Toshima K. Nozaki Y. and **Tatsuta K.** Highly stereoselective glycosylation by conformational assistance of glycosyl donor 6887
Toshima K. Ohta K. Ohtake T. and **Tatsuta K.** The manners of aromatization of a new 10-membered ring 1,6-diyn-3-ene system under basic conditions 391
Toshima K. Yoshida T. Mukaiyama S. and **Tatsuta K.** *De novo* highly stereocontrolled synthesis of 2,6-dideoxy-C-3-branched carbohydrates by use of 2,6-anhydro-2-thio sugar: L-cladinose and its C-3 epimer 4139
Toshimitsu A. Hirosawa C. and **Tanimoto S.** Enantioselectivity in the Ritter-type substitution reaction via episulfonium ion: retention of configuration 4317
Tosun A. see M. P. 5915
Tosun F. see Nasution M. P. 5915
Toth K. see Kabat M. 2343
Touet J. see Brown E. 4309
Towne R. W. see Larson A. L. 5893
Townsend C. A. see Cramer K. D. 4635
Townsend L. B. see Krawczyk S. H. 5693
Toyota K. Yoshimura H. Uesugi T. and **Yoshifuji M.** Reaction of dichlorocarbene with sterically protected phosphabutatriene. Formation of a stable dimethylenephosphirane 6879
Trafton J. E. see Hernandez J. C. 6269
Traylor T. G. see Battioni P. 2893
Trendel J. M. Graff R. Albrecht P. and **Riva A.** 24,28-Dinor-18α-oleanane, a novel demethylated higher plant derived triterpene hydrocarbon in petroleum 2959
Trendel J. M. see Adam P. 4179
Trigalo F. Molliex C. Champion B. and **Azerad R.** Synthesis of two cyclic analogs of glutamic acid: *cis*- and *trans*-pyrrolidine-2,4-dicarboxylic acids 3049
Trinh M.-C. Florent J.-C. Grierson D. S. and **Monneret C.** Synthesis of acyclic analogs of azido-thymidine, amino-thymidine, and related nucleosides 1447
Troin Y. Sinibaldi M.-E. Gramain J.-C. Rubiralta M. and **Diez A.** Preparation of spiroindolines as potential intermediates in *Aspidosperma* alkaloid synthesis 6129
Troisi L. see Lopez L. 117
Trombini C. see Boldrini G. P. 1229
Tronchet J. M. J. Zosimo-Landolfo G. Balkadjian M. Ricca A. Zsély M. Barbalat-Rey F. Cabrini D. Lichtle P. and **Geoffroy M.** New types of spin-labelled sugar and nucleoside analogs: pyrrolidine, morpholine and piperidine *N*-oxyls 4129
Trost B. M. and **Granja J. R.** Regioselective joining of prenyl units. A simple strategy for geometry control in Pd catalyzed allylic alkylations 2193
Trost B. M. and **Kondo Y.** An asymmetric synthesis of (+)-phyllanthocin 1613
Trost B. M. and **Kulawiec R. J.** A chemoselective internal redox of allyl alcohols to saturated aldehydes or ketones 3039
Trost B. M. and **Trost M. K.** Mechanistic dichotomies in Pd catalyzed enyne metathesis of cyclic olefins 3647
Trost M. K. see Trost B. M. 3647
Tsai Y.-M. and **Cherng C.-D.** Intramolecular free radical cyclizations using acylsilanes as radicalphiles 3515
Tsegenidis T. see Barlos K. 475
Tseng W.-H. see Yan T.-H. 5563
Tsuji J. see Mandai T. 3397
Tsuji J. see Mandai T. 3399
Tsuji J. see Mandai T. 7683
Tsuji J. see Mandai T. 7687
Tsuji Y. see Fujio M. 1805
Tsuji Y. see Fujio M. 2929
Tsujiyama H. see Okamoto S. 5789
Tsujiyama H. see Okamoto S. 5793
Tsukamoto K. see Suzuki H. 6591
Tsukamoto M. Kato R. Ishiguro K. Uchida T. and **Sato K.** Improved protective groups for phosphate of O-phosphoserine, useful for the solid-phase peptide synthesis 7083
Tsuno Y. see Fujio M. 1805
Tsuno Y. see Fujio M. 2929
Tsunoda T. Fujiwara K. Yamamoto Y. and **Itô S.** Site-specific generation of nonstabilized α-aminocarbanions; a novel methodology toward the synthesis of 2-aminoalcohols 1975
Tsuruda T. see Miyaji K. 4557
Tsuzuki S. see Araki S. 6587
Tuccio B. Ferré E. and **Comeau L.** Lipase-catalyzed syntheses of N-octyl-alkylamides in organic media 2763
Turchetta S. see Gambacorta A. 6805
Turchi S. see Nesi R. 6223
Turos E. see Agoston G. E. 3001
Turos E. see Jiang S. 4639
Turro N. J. see Ramamurthy V. 7675
Tykwinski R. see Stang P. J. 7497
Tykwinski R. see Zhdankin V. V. 733

Ubukata Y. see Fuchikami T. 1199
Uchida N. see Aimi N. 4949
Uchida S. see Yokoyama Y. 1479
Uchida T. see Pham A. T. 4843
Uchida T. see Tsukamoto M. 7083
Uchimura J. see Harada T. 1219
Uda H. see Harada N. 6757
Uda H. see Harada N. 6761
Udding J. H. Hiemstra H. van Zanden M. N. A. and **Speckamp W. N.** Copper catalyzed chlorine transfer cyclizations of glycine and glycolic acid derivatives 3123
Ueda I. see Hatanaka M. 4521
Ueda M. see Kondo T. 6375
Ueda T. see Murakami N. 1331
Ueda T. see Yoshimura Y. 4549
Ueda Y. Crast, Jr. L. B. Mikkilineni A. B. and **Partkya R. A.** Synthesis of phenoxyacetyl-N-(hydroxydioxocyclobutenyl)cycloserines 3767
Ueki S. see Nishiyama S. 2141
Uemura K. see Ochiai M. 4753
Uemura M. Miyake R. Shiro M. and **Hayashi Y.** Stereoselective synthesis of (η^6-arene)chromium complexes possessing chiral amine and hydroxy groups: chiral ligands in asymmetric synthesis 4569
Uemura M. Oda H. Minami T. and **Hayashi Y.** π-Face differential conjugate addition of organocopper to (*o*-substituted phenyl α,β-unsaturated ketone)chromium complexes 4565

Uenishi J. Masuda S. and Wakabayashi S. Intramolecular Sm^{2+} and Sm^{3+} promoted reaction of γ-oxy-δ-ketoaldehyde; stereocontrolled formation of pinacol and lactone 5097
Uenishi J. Okadai T. and Wakabayashi S. Total synthesis of (±)-acetomycin 3381
Ueno A. see Nakata M. 6015
Ueno M. see Tanaka T. 3175
Ueno Y. Saito R. and Hata T. Preparation of *O*-phosphoryl amino acid building blocks for the synthesis of *O*-phosphoryl peptides 1347
Ueno Y. see Kusuda S. 1325
Ueoka R. Yamada E. Yamashita O. Matsumoto Y. and Kato Y. Composition- and temperature-sensitive membranes composed of phosphatidylcholine and Triton X-100 for the remarkably enhanced stereoselective-hydrolysis 6597
Uesugi T. see Toyota K. 6879
Ugrak B. I. see Nikishin G. I. 2655
Ugwuegbulam C. O. see Ansell M. F. 4599
Uh K. H. see Kim S. 3395
Ujikawa O. see Inanaga J. 1737
Ujikawa O. see Inanaga J. 4921
Ukai N. see Kawagishi H. 4561
Ukaji Y. see Fujisawa T. 7563
Ukaji Y. Yamamoto K. Fukui M. and Fujisawa T. Stereodivergent synthesis of optically active tertiary alcohols via addition reaction of chiral 2-acyl oxazolidine with organometallics 2919
Ulmer, II C. W. see Smith D. A. 725
Ulrich A. see Maier G. 4469
Umani-Ronchi A. see Bocoum A. 1367
Umani-Ronchi A. see Boldrini G. P. 1229
Umarani R. see Venugopal M. 3235
Umemura T. see Danda H. 5119
Umezawa J. see Fukumasa M. 1059
Uneyama K. and **Kanai M.** Generation of perfluoroalkyl radicals at low temperature by tellurolate mediated electron transfer 7425
Uneyama K. and **Kitagawa K.** Areneselenolate-mediated perfluoroalkyl-sulfenylation of enol ethers 3385
Uneyama K. and **Kitagawa K.** Perfluoroalkyl-selenation of olefins 375
Uneyama K. and **Kobayashi M.** Syntheses of 1-aryl-2-trifluoromethylbenzimidazoles via electrochemically prepared *p*-benzoquinone 5981
Uneyama K. and **Watanabe H.** Palladium-catalyzed coupling reactions of trifluoroacetimidoyl iodides with olefins and 1-alkynes 1459
Ungaro R. see Groenen L. C. 2675
Ungwitayatorn J. see del Rosario-Chow M. 1011
Uozumi Y. see Hayashi T. 2799
Upender V. see Rama Rao A. V. 5199
Urabe H. see Aoyama Y. 6731
Urabe H. see Yamakawa I. 2045
Urata H. Goto D. and Fuchikami T. Carbonylation of alkyl sulfonates catalyzed by cobalt complexes 3091
Urata H. Hu N.-X. Maekawa H. and Fuchikami T. Transition metal complex catalyzed carbonylation of organic halides in the presence of molecular sieves instead of base 4733
Urata H. and Fuchikami T. A novel and convenient method for trifluoromethylation of organic halides using $CF_3SiR'_3$/KF/Cu(I) system 91
Urge L. Kollat E. Hollosi M. Laczko I. Wroblewski K. Thurin J. and Otvos, Jr. L. Solid-phase synthesis of glycopeptides: synthesis of N^{α}-fluorenylmethoxycarbonyl L-asparagine N^{β}-glycosides 3445
Uriel S. see Fabre J.-M. 6407
Uriel S. see Garín J. 3263
Ushio Y. see Kotsuki H. 4159
Uskokovic M. R. see Kabat M. 2343
Uskokovic M. R. see Kiegiel J. 6057
Usubillaga A. see Nakano T. 7667
Usui S. see Fukazawa Y. 3183
Utimoto K. see Fujii H. 6147
Utimoto K. see Ishihara T. 1069
Utimoto K. see Matsumoto K. 4545
Utimoto K. see Matsumoto K. 6383
Utimoto K. see Taniguchi M. 2783
Uwano T. see Kadota S. 1733
Uyehara T. Chiba N. Suzuki I. and Yamamoto Y. Diastereoselective intramolecular Diels—Alder reaction of *N*-alkoxycarbonyl-1-aza-1,3-butadienes and a total synthesis of the piperidine alkaloid, (±)-sedridine 4371
Uyeo S. and **Itani H.** A simple and stereocontrolled synthesis of a 1β-methylcarbapenem key intermediate by means of organosilicon chemistry 2143
Uzan R. see Belkhouya N. 3977
Uzawa J. see Kim K.-W. 6715
Uzawa J. see Koshino H. 7707

v. d. Heuvel H. L. A. see Hanekamp J. C. 5397
Vågberg J. O. see Nyström J.-E. 5247
Vajpayee D. see Khanna R. K. 3759
Valerio R. M. see Bray A. M. 6163
Valle G. see Dore A. 4771
Vallgårda J. and **Hacksell U.** Corrigendum 7136
Vallgårda J. and **Hacksell U.** Stereoselective palladium-catalyzed cyclopropanation of α,β-unsaturated carboxylic acids derivatized with Oppolzer's sultam 5625
Van Aerschot A. Jie L. and **Herdewijn P.** Synthesis of 5'-*O*-phosphonomethyl-2'-3'-didehydro-2',3'-dideoxyuridine by use of *p*-methoxybenzyl as a N^3-protecting group 1905
Van Aerschot A. see Herdewijn P. 4397
van Asten P. F. T. M. see Braverman S. 3867
van Bolhuis F. see Knol J. 7465
van Boom J. H. see Dreef C. E. 6021
van Boom J. H. see Dreef C. E. 955
van Boom J. H. see van Oijen A. H. 7723
van Boom J. H. see Veeneman G. H. 6175
van Boom J. H. see Verduyn R. 6637
van den Berg K. J. see de Jong J. C. 7751
van der Linden J. B. see Braverman S. 3867
van der Marel C. A. see Dreef C. E. 955
van der Marel G. A. see Dreef C. E. 6021
van der Marel G. A. see Moree W. J. 409
van der Marel G. A. see Veeneman G. H. 6175
van der Marel G. A. see Verduyn R. 6637
van der Werf A. and **Kellogg R. M.** Synthesis of some proline derivatives by means of Michael additions of glycine esters 3727
van Ginkel R. see Koot W.-J. 401
van Koten G. see Alsters P. L. 675
van Leusen A. M. see de Jong J. C. 7751
van Lier J. E. see Ali H. 5015

van Nispen J. W. F. M. see Jetten M. 6025
van Oijen A. H. de Bont H. B. A. van Boom J. H. and **Liskamp R. M. J.** Synthesis of an amino acid based phosphodiester linkage containing cryptand 7723
Van Roey P. see Chu C. K. 3791
van Zanden M. N. A. see Udding J. H. 3123
Vanden Eynde J.-J. see Maquestiau A. 3839
Vandendriessche F. see Herdewijn P. 4397
VanderRoest J. M. see Grieco P. A. 4665
Vandewalle M. see De Brabander J. 2821
Vanelle P. see Crozet M. P. 4125
Vanhessche K. see De Brabander J. 2821
Vankar Y. D. and **Shah K.** A facile conversion of tetrahydropyranyl ethers to the corresponding bromides and iodides 1081
Vaquero J. J. see Matia M. P. 7575
Vara Prasad J. V. N. and **Rich D. H.** Synthesis of hydroxyethylene dipeptide isosteres that mimic a cyclic amino acid at the P_1' subsite 5857
Varaprasad Ch V. N. S. see Rama Rao A. V. 4393
Vargas-Berenguel A. see Santoyo-González F. 1371
Varsha K. see Ram R. N. 5829
Vatele J.-M. see Koerber K. 1187
Vavrecka M. Janowitz A. and **Hesse M.** Transformation of 4-nitroalkane-1,7-diones into pyrrolizidines 5543
Vázquez P. see Rumbero A. 5153
Veeneman G. H. Broxterman H. J. G. van der Marel G. A. and **van Boom J. H.** An approach towards the synthesis of 1,2-*trans* glycosyl phosphates via iodonium ion assisted activation of thioglycosides 6175
Velluz A. see Näf R. 4487
Velluz A. see Näf R. 753
Venkatachalam C. S. see Dhanalekshmi S. 7591
Venkataraman R. see Groutas W. C. 6093
Venkataratnam R. V. see Shanthan Rao P. 5821
Venkatesan A. M. see Wilson S. R. 2339
Venugopal M. Umarani R. Perumal P. T. and **Rajadurai S.** A new method for the preparation of substituted 5,6,7,8-tetrahydro-4*H*-1-benzopyran and 4*H*-pyrans by Vilsmeier-Haack reagent 3235
Verbist J. F. see Malochet-Grivois C. 6701
Verboom W. see Groenen L. C. 2675
Vercauteren J. see Nkiliza J. 1787
Verdaguer X. see Canas M. 6931
Verdaguer X. see Poch M. 6935
Verduyn R. Bellën J. J. A. Dreef-Tromp C. M. van der Marel G. A. and **van Boom J. H.** Synthesis of a peptidyl-dimannosyl phosphate: fragment of the variant-specific surface glycoprotein membrane anchor from *Trypanosoma brucei* 6637
Veretenov A. L. Smit W. A. Vorontsova L. G. Kurella M. G. Caple R. and **Gybin A. S.** An unusual case of Khand-Pauson cyclization involving the participation of a conjugated double bond. A promising sequence for the assemblage of polycyclic framework 2109
Viallefont P. see El Hadrami M. 3985
Vicens J. see Zerr P. 1879
Vickers D. see Rossiter B. E. 3973
Victory P. Borrell J. I. Vidal-Ferran A. Seoane C. and **Soto J. L.** The reaction of malononitrile with chalcone: a controversial chemical process 5375
Vidal A. see Molina P. 5379
Vidal J. P. see Niel G. 2613
Vidal-Ferran A. see Victory P. 5375
Viehe H. G. see Plancquaert M.-A. 7265
Viehe H. G. see Rousselle D. 907
Vijayakumar E. K. S. see Chatterjee S. 141
Vijayakumar S. see Smith D. A. 3613
Vijayakumar S. see Smith D. A. 3617
Vila A. J. Cravero R. M. and **Gonzalez-Sierra M.** The reductive alkylation of aromatic ketones revisited. A new stereoselective route to highly functionalizad 4a,8a-substituted 1,2,3,4,4a,6,8a,9,10,10a-decahydrophenanthrenes 1929
Vílchez J. E. see Fernández R. 3225
Villa L. see Cesarotti E. 4381
Villani F. J. see Caldwell G. W. 3763
Villaverde M. C. see Castedo L. 3871
Villaverde M. C. see Estévez J. C. 529
Vinader M. V. see Molina P. 4401
Vincent B. R. see Folkins P. L. 7009
Vining L. C. see Ayer S. W. 6301
Vinuesa S. see Herranz R. 7579
Vioieau B. see Coustard J.-M. 3075
Vionnet J.-P. see Renaud P. 3491
Virgili A. see Nouguier R. 5529
Virgili M. Belloch J. Moyano A. Pericàs M. A. and **Riera A.** Bis(*tert*-butylsulfonyl)acetylene as a general synthetic equivalent of alkynes in Diels-Alder chemistry–II. Reductive and alkylative desulfonylations of bicyclic 1-alkyl-2-(*tert*-butylsulfonyl)ethenes 4583
Virgili M. see Belloch J. 4579
Viswamitra M. A. see Mehta G. 6219
Viswanadham G. see Gurjar M. K. 6191
Vlaar C. P. and **Klumpp G. W.** Preparation and some properties of 7,7-dilithionorbornane 2951
Vlahov I. R. Vlahova P. I. and **Schmidt R. R.** A new approach to the synthesis of neuraminic acid analogues 7025
Vlahova P. I. see Vlahov I. R. 7025
Vo-Quang L. see Meffre P. 4717
Vo-Quang Y. see Meffre P. 4717
Voelter W. see Shao J. 345
Vogel C. Delavier P. Jones P. G. and **Döring D.** Intramolecular reactions of α-azidocinnamates with 4-substituted 1,3-dienes 1409
Vogel P. see Auberson Y. 1637
Vogel P. see Bimwala R. M. 1429
Vogel P. see Renaud P. 3491
Vogel P. see Wagner J. 3169
Vogler B. see Kato M. 7439
Vogt K. see Wang Y. 1675
Vogt P. Schlageter M. and **Widmer E.** Preparation of (9Z,11Z)-vitamin A 4115
Vohra R. see Kessar S. V. 3221
Volante R. P. see DeCamp A. E. 1867
Volkmann R. A. see Jasys V. J. 3771
Voll R. J. see Garcia J. G. 5273
von Schnering H. G. see Tochtermann W. 483
Vorontsova L. G. see Veretenov A. L. 2109
Vos M. see Kammermeier B. O. T. 3111
Voyer N. and **Roby J.** Design, synthesis, and side chain binding cooperativity of bis-crown ether peptides 331
Voyle M. see Stephenson G. R. 5265
Vu C. B. see Wasserman H. H. 6039
Vu H. and **Hirschbein B. L.** Internucleotide phosphite sulfurization with tetraethylthiuram disulfide.

Phosphorothioate oligonucleotide synthesis via phosphoramidite chemistry 3005
Vyas D. M. see Golik J. 1851

Wachendorff-Neumann U. see Scherkenbeck J. 1719
Wachtmeister C. A. see Arnoldsson K. C. 543
Wada E. see Kanemasa S. 6367
Wada I. see Harada T. 1219
Wadsworth H. see Orlek B. S. 1241
Wadsworth H. see Orlek B. S. 1245
Waegell B. see Jaafar A. 5531
Waegell B. see Martres P. 765
Waegell B. see Tenaglia A. 1169
Wagner H. see Öztunç A. 4377
Wagner J. and **Vogel P.** Asymmetric total synthesis of azasugars branched at C-5 3169
Wagner P. J. and **Cao Q.** Photocyclization of *ortho*-benzoyl N-alkylanilinium ions 3915
Wagner P. J. and **Laidig G.** Enol ether formation by disproportionation of the 1,5-biradical intermediate in the photocyclization of *o*-isopropoxybenzophenone 895
Wagner P. J. and **Park B. S.** High diastereoselectivity in the cyclization of 1,5-biradicals: what causes such sizeable steric barriers to biradical coupling? 165
Wagner R. W. Ruffing J. Breakwell B. V. and **Lindsey J. S.** Synthesis of facially-encumbered porphyrins. An approach to light-harvesting antenna complexes 1703
Wakabayashi S. see Uenishi J. 3381
Wakabayashi S. see Uenishi J. 5097
Wakahara Y. see Otera J. 2405
Wakai H. see Sawai H. 6905
Wakamatsu K. see Niwa H. 1329
Walkup R. D. Boatman, Jr. P. D. Kane R. R. and **Cunningham R. T.** A stereoselective route to the spirobicyclic ring system of oscillatoxin D 3937
Wallace D. J. see Paterson I. 7601
Wallace T. W. see Hickman D. N. 819
Wallace T. W. see Hayes R. 2953
Wallbank P. J. see Mitchell M. B. 2273
Wallis C. J. see Choi S. 3569
Wallis C. J. see Wang Y. 1675
Walliser B. see Allmendinger T. 2735
Walse B. see Elofsson M. 7613
Walter J. A. see Ayer S. W. 6301
Walters M. A. McDonough C. S. Brown, Jr. P. S. and **Hoem A. B.** An extremely mild 3-aza-Claisen reaction-I. Rearrangement of simple N-allyl amides 179
Walters M. A. see Boeckman, Jr. R. K. 4095
Walton J. C. see Mordi R. C. 4203
Wamhoff H. Schmidt A. and **Nieger M.** Heterocondensed uracil betaines by three component reaction: iminophosphorane, heteroarene, isocyanate 4473
Wandrekar V. see Czuchajowski L. 7511
Wang D. see Li L.-H. 2879
Wang G. see Kanematsu K. 4761
Wang H. and **Weller D. D.** Solid phase synthesis of neutral oligonucleotide analogues 7385
Wang K. K. see Gu Y. G. 3029
Wang K.-T. see Wu S.-H. 3529
Wang P. Hill T. G. Bednarski M. D. and **Callstrom M. R.** the catalytic formation of peptide bonds with carbohydrate protein conjugates of proteases [CPC(proteases)] 6827
Wang P. see Hill T. G. 6823
Wang R.-T. see Luo F.-T. 7703
Wang T. see Shen Y. 4353
Wang W. see Ho M. 1283
Wang W.-B. Shi L.-L. Li Z.-Q. and **Huang Y.-Z.** Highly stereoselective one-step synthesis of 5-aryl- and 5-(2-styrenyl)-4,5-*trans*-epoxy-2(*E*)-pentenols employing an arsonium salt 3999
Wang X. Determination of enantiomeric purity of alcohols using achiral diphenyldichlorosilane 3651
Wang X. see Adam W. 1295
Wang X. and **Snieckus V.** Synthetic strategies based on aromatic metalation–cross coupling links. Regiospecific synthesis of the phenanthrene natural product gymnopusin 4879
Wang X. and **Snieckus V.** Synthetic strategies based on aromatic metalation–cross coupling links. A concise formal synthesis of the azaphenanthrene alkaloid eupolauramine 4883
Wang Y. Fleet G. W. J. Wilson F. X. Storer R. Myers P. L. Wallis C. J. Doherty O. Watkin D. J. Vogt K. Witty D. R. and **Peach J. M.** Oxetane nucleosides with fluorine and azide substituents: nucleophilic displacements on an oxetane ring 1675
Wang Y. and **Mosher H. S.** ^{19}F NMR non-equivalence of diastereomeric amides of 2,2,2-trifluoro-1-phenylethylamine 987
Wang Y.-X. see Creary X. 729
Wang Z. Meng X.-J. and **Kabalka G. W.** Stereoselective allyl- and crotylboration of alpha-hydroxyketones via neighboring group control 1945
Wang Z. Meng X.-J. and **Kabalka G. W.** The stereoselective crotylboration of alpha-oxocarboxylic acids 5677
Wang Z. Meng Z.-J. and **Kabalka G. W.** The addition of allylboronates to alpha–oxocarboxylic acids 4619
Wang Z. Synthetic studies towards the immunosuppressant FK-506; synthesis of the C_{10}-C_{34} fragment 4631
Wang Z.-M. see Zhou W.-S. 1467
Ward D. E. and **Kaller B. F.** [3+3] Annulation by sequential two electron and one electron allylation 843
Ward D. E. and **Rhee C. K.** A simple method for the microscale preparation of Mosher's acid chloride 7165
Wardleworth J. M. see Hickman D. N. 819
Warin R. see Quetin-Leclercq J. 4295
Warmus J. S. see Meyers A. I. 5501
Warmus J. S. see Meyers A. I. 5505
Warmus J. S. see Meyers A. I. 5509
Warren S. see Armstrong S. K. 4171
Warren S. see Chibale K. 6645
Warren S. see Hall D. 7123
Warren S. see McIntyre S. 5409
Warren S. see Sansbury F. H. 3425
Warrener R. N. Butler D. N. Liao W. Y. Pitt I. G. and **Russell R. A.** The synthesis of polarofacial spacer molecules: a new twist in the coupling of ring strained olefins with oxadiazoles 1889
Warrener R. N. Groundwater P. Pitt I. G. Butler D. N. and **Russell R. A.** The synthesis of spacer molecules containing an alcohol group at each terminus 1885
Wartchow C. A. see Hill T. G. 6823
Wartski L. see Paugam R. 491
Wasserman H. H. Ennis D. S. Vu C. B. and **Schulte G. K.** Benzilic acid rearrangements in the reactions of aryl vicinal

tricarbonyl derivatives with aldehyde Schiff bases 6039
Wasserman H. H. Frechette R. Rotello V. M. and **Schulte G.** Singlet oxygen reactions of 2-carbalkoxy-3-methoxypyrroles 7571
Wasserman H. H. and **Fukuyama J. M.** A mechanistic study of pyrrole formation in the HBF_4-catalyzed thermolysis; of cyclopropyl ketimines 7127
Wasserman H. H. and **Kuo G.-H.** The chemistry of vicinal tricarbonyls. An efficient synthesis of (±)-vasicine 7131
Watanabe H. see Uneyama K. 1459
Watanabe M. see Kato M. 7439
Watanabe M. see Kato M. 7443
Watanabe T. Nishiyama S. Yamamura S. Kato K. Nagai M. and **Takita T.** Synthetic studies on oxetanocin analogs: synthesis of oxetanosyl C-nucleoside, 2-deoxy-2-hydroxymethyl-β-D-erythrooxetanosyl maleimide 2399
Watanabe T. see Nishiyama S. 2141
Watanabe Y. see Kusuda S. 1325
Watanabe Y. see Shimizu M. 2053
Watkin D. see Choi S. 3569
Watkin D. J. see Elliott R. P. 6227
Watkin D. J. see Wang Y. 1675
Watson B. T. see Barr K. J. 5465
Watt D. S. see Golinski M. 1553
Watts I. see Prasad G. K. B. 5035
Wayner D. D. M. see Arya P. 2853
Wayner D. D. M. see Arya P. 6265
Weber H. P. see Cid M. M. 7233
Weedon A. C. see Hastings D. J. 4107
Weeratunga G. see Prasad G. K. B. 5035
Wegner R. see Beye N. 479
Wehmeyer R. M. see Pews R. G. 7191
Wehner J. M. see Macor J. E. 7195
Wehrli M. see Differding E. 3819
Wei C.-P. see Liao C.-C. 4553
Wei Y. and **Bakthavatchalam R.** Aldol addition reaction of a lithium ester enolate in the solid state 1535
Weidmann H. see Fürstner A. 6695
Weigel L. O. see Astleford B. 3301
Weiler L. see Graham R. J. 1027
Weingart F. see Effenberger F. 2605
Weinstein E. J. see Moore J. S. 2465
Weiss J. see Wytko J. A. 7261
Weissenfels M. see Alvernhe G. 643
Welch J. T. see Araki K. 5461
Welch J. T. see Yamazaki T. 4267
Weller D. D. see Wang H. 7385
Wells E. see Donald D. K. 1375
Wells T. N. C. see Dolle R. E. 4587
Welmaker G. S. see Marshall J. A. 2101
Wender P. A. and **Tebbe M. J.** Studies on DNA cleaving agents: synthesis and chemically induced cycloaromatization of a monocyclic neocarzinostatin chromophore analogue 4863
Weng X. see Zoretic P. A. 4819
Wenqing Y. see Barlos K. 471
Wentrup C. see Kambouris P. 1487
Westwood R. see Luheshi A.-B. N. 4056
Wetterich F. see Giese B. 6097
Wheeler D. M. S. see Chamberlain T. 1707
Wheeler M. M. see Chamberlain T. 1707
Whitby R. J. see Lewis D. P. 6797
White A. C. see Cliffe I. A. 6789
White J. B. see Chou W.-N. 157
White J. B. see Chou W.-N. 299
White J. B. see Chou W.-N. 7637
White W. R. see Perrin H. M. 4443
Whiteford J. A. see Smit W. A. 2105
Whiteker G. T. and **Lippard S. J.** Synthesis of thioether derivatives of ethidium bromide 5019
Whitesides G. M. see Myles D. C. 4835
Whiting A. A convenient preparation of β-boronate carbonyl derivatives. Evidence for the intervention of boronate 'ate'-complexes in enolate alkylations 1503
Whiting A. see Curtis A. D. M. 1507
Whiting D. A. see Crombie L. 7337
Whittall N. see Berry P. D. 2683
Whittenburg S. L. see Evilia R. F. 871
Wicha J. see Kabat M. M. 531
Wicha J. see Kabat M. M. 1073
Wichtowski J. A. see Araki K. 5461
Wicklow D. T. see TePaske M. R. 5687
Widlanski T. see Pansegrau P. D. 2589
Widlanski T. S. see Musicki B. 1267
Widmer E. see Soukup M. 4117
Widmer E. see Vogt P. 4115
Wiechert R. see Künzer H. 1949
Wiechert R. see Künzer H. 3673
Wiechert R. see Künzer H. 7247
Wiechert R. see Künzer H. 743
Wieczorek M. W. see Mikołajczyk 4189
Wigerinck P. see Herdewijn P. 4397
Wightman R. H. see Mekki B. 5143
Wijayaratne T. see Polt R. 4831
Wijesekera T. P. see Yon-Hin P. 2875
Willcocks N. A. see Bowman W. R. 2285
Willenbrock F. W. see Alexander R. P. 3269
Williams C. R. and **Harpp D. N.** Reaction of chloro(triphenylmethyl)disulfide with 1,3-dienes: synthesis of cyclic di- and tetrasulfides 7651
Williams C. R. and **Harpp D. N.** Unexpected catalytic sulfur extrusion in the reaction of triphenylmethanesulfenyl chloride with thiocarbonyls 7633
Williams D. H. see Stone M. J. 2663
Williams D. J. see Ashton P. R. 6235
Williams R. M. and **Esslinger C. S.** Synthesis of tri-substituted furans: mild Ti(IV)-mediated couplings to acetals. Construction of the epoxy hemi-amido ketal of fusarin C 3635
Williams S. see Stephenson G. R. 5265
Williamson B. L. see Zhdankin V. V. 733
Wilson F. X. see Wang Y. 1675
Wilson J. D. see Baldwin S. W. 4431
Wilson S. R. Venkatesan A. M. Augelli-Szafran C. E. and **Yasmin A.** A new synthetic route to 1,25-dihydroxy-vitamin D_3 2339
Wilson S. R. and **Guarnieri F.** Calculation of rotational states of flexible molecules using simulated annealing 3601
Wilson W. K. see Herz J. E. 3923
Wind B. K. see Rabideau P. W. 5659
Winkler J. D. and **Gretler E. A.** Stereoselective cyclopropanation of homoallylic alcohols. Formal attachment of a cyclopropane to a preexisting ring 5733
Winterhalter P. Lutz A. and **Schreier P.** Isolation of a glucosidic precursor of isomeric marmelo lactones from quince fruit 3669
Winterhalter P. see Lutz A. 5943

Winters R. T. see Showalter H. D. H. 2849
Wirth T. see Blechert S. 7237
Witte J. F. and **McClard R. W.** Synthesis of a potent α-glucosidase inhibitor epimeric to FR 900483 3927
Wittenberger S. J. Baker W. R. Donner B. G. and **Hutchins C. W.** The design and synthesis of cyclic renin inhibitors 7655
Witty D. R. see Choi S. 3569
Witty D. R. see Wang Y. 1675
Wolf M. A. see Gung B. W. 13
Wolff-Kugel D. and **Halazy S.** Synthesis of new carbocyclic phosphonate analogs of dideoxypurine nucleotides 6341
Wolstenholme H. J. see Fusetani N. 7291
Wong C.-H. Krach T. Gautheron-Le Narvor C. Ichikawa Y. Look G. C. Gaeta F. Thompson D. and **Nicolaou K. C.** Synthesis of novel disaccharides based on glycosyltransferases: β1,4galactosyltransferase 4867
Wong H. see Golik J. 1851
Wong H. N. C. see Yang Z. 2061
Woo K.-C. and **Jones K.** Asymmetric synthesis from α-amino acids; some reactions of (*S*)-pyroglutamate 6949
Wood A. see Ley S. V. 6183
Wood J. L. see Smith, III A. B. 1627
Wood J. L. see Smith, III A. B. 841
Wood K. V. see Rieser M. J. 1137
Wood W. W. see Alker D. 1667
Wovkulich P. M. see Kabat M. 2343
Wovkulich P. M. see Kiegiel J. 6057
Wrigglesworth R. see Garratt P. J. 691
Wright I. G. see Zmijewski, Jr. M. J. 1621
Wrobel Z. see Oh T. 4647
Wroblewski K. see Urge L. 3445
Wu C.-H. see Yan T.-H. 4959
Wu J.-P. see Bigge C. F. 7659
Wu P.-L. and **Sun C.-J.** A simple method for the preparation of N-substituted hydroxamic acids by reductive acylation of oximes 4137
Wu S. C. see Hart D. J. 4099
Wu S.-H. Chu F.-Y. Chang C.-H. and **Wang K.-T.** The synthesis of D-isoglutamine by a chemoenzymatic method 3529
Wu S.-Y. Tola R. F. and **Casida J. E.** Mechanism of phosphinyloxysulfonate formation on peracid oxidation of *N,N,N',N'*-tetrasubstituted phosphorodiamidothiolates 4427
Wu T.-S. see Su T.-L. 1541
Wu W.-X. see Porter N. A. 707
Wu Y. see Brimble M. A. 4049
Wu Y. see Kraus G. A. 3803
Wu Y.-C. Liou J.-Y. Duh C.-Y. Lee S.-S. and **Lu S.-T.** Litebamine, a novel phenanthrene alkaloid from *Litsea cubeba* 4169
Wu Z. see Moore J. S. 2465
Wuonola M. A. Smallheer J. M. Read J. M. and **Calabrese J. C.** Intramolecular Diels–Alder reactions of isoquinoline-1-carboxamides 5481
Würthwein E.-U. see Baumann F. 4683
Wüster H. see Brinker U. H. 593
Wydra R. L. see Battiste M. A. 5303
Wyman P. see Orlek B. S. 1241
Wyman P. see Orlek B. S. 1245
Wytko J. A. and **Weiss J.** Cyclotriveratrylene as preorganizing matrix: a new tripode ligand 7261
Włostowski M. see Moss R. A. 1925

Xiang Y. see Shen Y. 4953
Xiao X. and **Prestwich G. D.** Enzymatic cyclizations of 26- and 29-hydroxy-2,3-oxidosqualenes give 19- and 21-hydroxylanosterols 6843
Xing Y. see Hixson S. S. 173
Xiong H. and **Rieke R. D.** The magnesium complexes of 1,2-dimethylenecycloalkanes: a new method for one-step spiroannelation 5269
Xu X.-X. Zhu J. Huang D.-Z. and **Zhou W.-S.** Total synthesis of (+)-Yingzhaosu A 5785
Xu C.-L. and **Chen Z.-C.** Reaction of isopropylidene 5-tosyloxymalonate with alkyl halides-a new sulfur-oxygen scission of tosylate 2933
Xu J. see Chen S. 6711
Xu L. Miebach T. Brinker U. H. and **Smith W. B.** A new mechanism for reactions of carbenes and bicyclo[1.1.0]butanes 4461
Xu L. H. see Torii S. 237
Xu S. Yerxa B. R. Sullivan R. W. and **Moore H. W.** Synthesis of substituted cyclobuteneodiones from 3-ethenyl-4-methoxycyclobutene-1,2-dione 1129
Xu S. L. see Padwa A. 4103
Xu S. L. see Padwa A. 5923
Xu S. L. see Padwa A. 983
Xu Y.-Z. Zheng Q. and **Swann P. F.** Simple synthesis of 4-thiothymidine, 4-thiouridine and 6-thio-2'-deoxyguanosine 2817
Xu Z. L. see Yang Z. 2061

Yabe M. see Fujihara H. 4345
Yadav J. S. see Rama Rao A. V. 5199
Yadav J. S. and **Ravishankar R.** A novel approach towards the synthesis of functionalized taxane skeleton employing Wittig rearrangement 2629
Yagupolskii L. M. see Pazenok S. V. 4595
Yakura T. see Kita Y. 2035
Yakura T. see Kita Y. 4321
Yamada E. see Ueoka R. 6597
Yamada H. see Nishizawa M. 211
Yamada H. see Nishizawa M. 5551
Yamada J. see Yamamoto Y. 3079
Yamada J. see Yamamoto Y. 4749
Yamada J. see Yamamoto Y. 7069
Yamada K. see Kigoshi H. 2427
Yamada K. see Kigoshi H. 4541
Yamada K. see Nakatani K. 3405
Yamada K. see Niwa H. 1329
Yamada K. see Niwa H. 5127
Yamada K. see Niwa H. 927
Yamada M. see Kuroda S. 655
Yamada N. see Murakami N. 1331
Yamada S. Hamano K. Shimizu M. and **Ichikawa H.** Reaction of vitamin A with 1,2,4-triazoline-3,5-diones 2379
Yamada Y. see Nagaoka H. 6741
Yamada Y. see Sakuda S. 1817
Yamaguchi A. see Aoki M. 4737
Yamaguchi I. see Bhaskar K. V. 6203
Yamaguchi K. see Murakami M. 2391
Yamaguchi M. see Inanaga J. 1737
Yamaguchi M. see Inanaga J. 4921
Yamaguchi M. see Inanaga J. 5559
Yamaguchi M. see Inanaga J. 6371
Yamaguchi M. see Inanaga J. 6557
Yamaguchi M. see Okamura H. 5137
Yamaguchi M. see Okamura H. 5141
Yamaguchi T. Yoshida T. Nagamatsu T. Kunieda T. Honda T. and **Hirobe M.** Liquid crystalline dienophiles as regiochemical director in bimolecular Diels–Alder reactions 1729

Yamaguchi Y. see Shono T. 1051
Yamakawa I. see Ito T. 371
Yamakawa I. Urabe H. Kobayashi Y. and **Sato F.** Synthesis of optically active γ-cyano-β-γ-epoxy alcohols and secondary γ-cyano allylic alcohols 2045
Yamakawa K. see Nishitani K. 387
Yamakawa K. see Satoh T. 5599
Yamamoto G. Higuchi H. Yamamoto H. and **Ojima J.** Configurational and conformational isomerization of 9,14-dimethyl-10,12-bisdehydro[19]annulenone in neutral and acidic solutions 5129
Yamamoto H. see Fujioka H. 5367
Yamamoto H. see Kanemasa S. 6367
Yamamoto H. see Tagaki W. 1207
Yamamoto H. see Yamamoto G. 5129
Yamamoto K. see Ukaji Y. 2919
Yamamoto M. see Nakamura A. 4355
Yamamoto T. Eki T. Nagumo S. Suemune H. and **Sakai K.** Novel skeletal transformation of bicyclo[3.3.0]octanones to bicyclo[3.2.1]octenes 515
Yamamoto Y. Okano H. and **Yamada J.** Regiocontrolled conjugate addition of germanium-masked dienolates to Michael acceptors 4749
Yamamoto Y. see Fujii N. 4969
Yamamoto Y. see Suzuki T. 4505
Yamamoto Y. see Tsunoda T. 1975
Yamamoto Y. see Uyehara T. 4371
Yamamoto Y. Yamada J. and **Kadota I.** Stereocontrolled intramolecular cyclization of ω-tributylstannyl ether aldehydes. Synthesis of the 6 . 7 . 7 . 6 ring system of polycyclic ethers 7069
Yamamoto Y. Yumoto M. and **Yamada J.** Synthesis of a non-symmetric azodicarbonyl compound and its regio selective reaction with organometallic reagents 3079
Yamamura H. see Fujita K. 6737
Yamamura S. see Harada N. 6757
Yamamura S. see Kobayashi J. 1227
Yamamura S. see Kosemura S. 3543
Yamamura S. see Maki S. 4973
Yamamura S. see Matsunaga K. 6883
Yamamura S. see Nishiyama S. 2141
Yamamura S. see Nishiyama S. 4151
Yamamura S. see Nishiyama S. 6753
Yamamura S. see Suda H. 2791
Yamamura S. see Watanabe T. 2399
Yamana K. Nishijima Y. Negishi U. Yashiki T. Nishio K. Nakano H. and **Sangen O.** Deoxyribonucleoside 3'-phosphorobisamidites in the synthesis of isopropyl phosphotriester oligodeoxyribonucleotide analogues 4721
Yamana K. Ohashi Y. Nunota K. Kitamura M. Nakano H. Sangen O. and **Shimidzu T.** Synthesis of oligonucleotide derivatives with pyrene group at sugar fragment 6347
Yamanaka K. see Fujisawa T. 399
Yamanaka T. see Fujioka H. 5367
Yamaoki H. see Mandai T. 3397
Yamashita D. S. Rocco V. P. and **Danishefsky S. J.** Enantiomerically homogeneous intermediates toward the synthesis of descarbamoyl-calicheamicinone 6667
Yamashita O. see Ueoka R. 6597
Yamauchi T. see Tanaka H. 7445
Yamaya T. see Sugimura H. 1809
Yamaya T. see Sugimura H. 1813
Yamazaki A. see Hayashi T. 2799
Yamazaki K. see Kuroda S. 655
Yamazaki T. see Shinozuka K. 6869
Yamazaki T. see Sugimura H. 1809
Yamazaki T. see Sugimura H. 1813
Yamazaki T. Welch J. T. Plummer J. S. and **Gimi R. H.** The enantioselective fluoroacetamide acetal Claisen rearrangements of *N*-fluoroacetyl-*trans*-(2*R*,5*R*)-2,5-dimethylpyrrolidine 4267
Yan T.-H. Chu V.-V. Lin T.-C. Tseng W.-H. and **Cheng T.-W.** A superior chiral auxiliary in aldol condensations: camphor-based oxazolidone 5563
Yan T.-H. Chu V.-V. Lin T.-C. Wu C.-H. and **Liu L.-H.** Asymmetric alkylation reactions of camphor-based imide enolate 4959
Yanagi T. see Hosomi A. 2371
Yanagiya Y. see Hashimoto S. 4027
Yang C. X. see Grob C. A. 5945
Yang G. X.-Q. see Katz T. J. 5895
Yang S. S. Dawson B. T. and **Rieke R. D.** Synthesis of 2,4'-disubstituted biphenyls via regioselective electrophilic and nucleophilic addition to the $(\eta^5$-cyclohexadienylidene$)_2[Cr(CO)_3]_2$ dianion 3341
Yang S. S. see Thompson K. L. 3337
Yang Z. Hon P. M. Chui K. Y. Xu Z. L. Chang H. M. Lee C. M. Cui Y. X. Wong H. N. C. Poon C. D. and **Fung B. M.** Naturally occurring benzofuran: isolation, structure elucidation and total synthesis of 5-(3-hydroxypropyl)-7-methoxy-2-(3'-methoxy-4'-hydroxy-phenyl)-3-benzo[*b*]furancarbaldehyde, a novel adenosine A_1 receptor ligand isolated from *Salvia miltiorrhiza* Bunge (Danshen) 2061
Yang Z.-Y. and **Burton D. J.** A novel, general method for the preparation of α,α-difluoro functionalized phosphonates 1019
Yano T. see Koshino H. 7707
Yanovsky A. I. see Smit W. A. 2105
Yao R. C. see Kirst H. A. 4839
Yaouanc J. J. see Bernard H. 639
Yashiki T. see Yamana K. 4721
Yasmin A. see Wilson S. R. 2339
Yasui K. see Natsume M. 3087
Yasui S. Fujii M. Kawano C. Nishimura Y. and **Ohno A.** Dediazoniation of arenediazonium salt with trivalent phosphorus compounds by one-electron transfer mechanism 5601
Yasui S. and **Ohno A.** The photoreduction of 10-methylacridinium ion by triphenylphosphine through one-electron transfer mechanism 1047
Yasumoto T. see Suzuki T. 4505
Yasunami M. see Kuroda S. 655
Yates P. see Bhamare N. K. 4439
Yazaki J. see Fujita M. 5589
Ye H. Rong D. and **D'Souza V. T.** Electrophilic catalysis by cyclodextrins 5231
Yeh M.-C. P. Sun M.-L. and **Lin S.-K.** Alkylation of some tricarbonyl(pentadienyl) and (cyclohexadienyl)-iron(+1) salts with the highly functionalized copper reagents RCu-(CN)ZnI 113
Yelland M. see Chaloner L. M. 7609
Yen C.-F. see Sheu J.-H. 5547
Yeo S. see Kanematsu K. 1351
Yerxa B. R. see Xu S. 1129
Yoakim C. see Guindon Y. 5453
Yoakim C. see Guindon Y. 27
Yoda H. Katagiri T. and **Takabe K.** A novel stereoselective

synthesis of (+)-cerulenin and (+)-tetrahydrocerulenin 6771
Yoda H. Shirakawa K. and **Takabe K.** Chiral cyclic imides with C_2-symmetry. Novel reagents for the synthesis of optically pure lactones containing three contiguous tertiary centers 3401
Yokokawa F. see Hamada Y. 5983
Yokomatsu T. see Kano S. 233
Yokose K. see Aoki M. 217
Yokose K. see Aoki M. 221
Yokose K. see Aoki M. 4737
Yokoyama H. see Saito S. 663
Yokoyama M. see Togo H. 3377
Yokoyama M. see Togo H. 6559
Yokoyama M. Sujino K. Irie M. and **Togo H.** Thermal rearrangement of sugar lactoxime O-vinyl ethers 7269
Yokoyama Y. Kawashima H. Kohno M. Ogawa Y. and **Uchida S.** Stereospecific construction of three contiguous asymmetric centers via cyclic hydroboration 1479
Yokoyama Y. see Inanaga J. 5559
Yokoyama Y. see Inanaga J. 6371
Yon-Hin P. Wijesekera T. P. and **Dolphin D.** A convenient synthetic route to the bacteriochlorin chromophore 2875
Yon-Hin P. and **Scott A. I.** Total synthesis of Corallistin A 4231
Yoneda R. see Harusawa S. 1203
Yonemitsu O. see Hamada T. 1649
Yonemitsu O. see Matsushima T. 5133
Yoo J. Y. see Kim D. 1577
Yoo S. see Jeong N. 2137
Yoon H. King S. B. and **Ganem B.** Synthesis of 1-β-amino-1-deoxynojirimycins: a new family of glucosidase inhibitors 7199
Yorita K. see Orito K. 5999
Yoshida K. Kondo T. Kameda K. Kawakishi S. Lubag A. J. M. Mendoza E. M. T. and **Goto T.** Structures of alatanin A, B and C isolated from edible purple yam *Dioscorea alata* 5575
Yoshida K. Kondo T. and **Goto T.** Unusually stable monoacylated anthocyanin from purple yam *Dioscorea alata* 5579
Yoshida K. see Kondo T. 6375
Yoshida K. see Kubo Y. 7419
Yoshida N. see Kita Y. 2375
Yoshida S. see Kawagishi H. 4561
Yoshida S. see Kim K.-W. 6715
Yoshida T. see Toshima K. 4139
Yoshida T. see Toshima K. 6155
Yoshida T. see Yamaguchi T. 1729
Yoshida W. Y. see Pham A. T. 4843
Yoshifuji M. see Toyota K. 6879
Yoshii E. see Takeda K. 4925
Yoshikawa K. Arihara S. and **Matsuura K.** A new type of antisweet principles occurring in *Gymnema sylvestre* 789
Yoshikawa K. see Kakuno T. 3535
Yoshikawa K. see Kigoshi H. 4541
Yoshikawa K. Shimono N. and **Arihara S.** Antisweet substances, jujubasaponins I-III from *Zizyphus jujuba;* revised structure of ziziphin 7059
Yoshikoshi A. see Kido F. 6159
Yoshimatsu M. see Kataoka T. 105
Yoshimura H. see Toyota K. 6879
Yoshimura T. see Fukase K. 4019
Yoshimura Y. Iino T. and **Matsuda A.** Nucleosides and nucleotides—CII. Stereoselective radical deoxygenation of *tert*-propargyl alcohols in sugar moiety of pyrimidine nucleosides: synthesis of 2'-*C*-alkynyl-2'-deoxy-1-β-D-arabinofuranosyl-pyrimidines 6003
Yoshimura Y. Ueda T. and **Matsuda A.** Synthesis of 6,1'-propanouridine, fixed in *syn*-conformation by a spiro-carbon bridge 4549
Yoshino T. see Okamoto S. 5789
Yoshino T. see Okamoto S. 5793
Yoshioka M. Nishioka T. and **Hasegawa T.** Reaction of singlet oxygen with enolic tautomers of β-dicarbonyls. α-Hydroxylation of 2-acyl- and 2-carboalkoxy-3,4-dihydronaphthalen-1(2H)-ones 1471
Youn S. J. see Kim S. S. 4725
Younathan E. S. see Garcia J. G. 5273
Young D. J. see Lucke A. J. 807
Young D. W. see Bowler A. N. 2679
Yu G.-X. see Branchaud B. P. 3639
Yu Y. Ohno M. and **Eguchi S.** Synthesis of 4-azahomoadamant-4-ene *N*-oxides and their 1,3-dipolar cycloaddition reactivity 4965
Yuan K. and **Scott W. J.** Nickel-catalyzed cross-coupling of unactivated neopentyl iodides with Grignard reagents 189
Yuan W. see Edstrom E. D. 323
Yuasa H. see Hashimoto H. 7087
Yudkovitz J. see Thompson K. L. 3337
Yumoto M. see Yamamoto Y. 3079
Yung T. W. K. and **Sammes M. P.** The first 1,4,2-oxathiazolium salts: remarkable similarities to their 1,3,4-isomers 4329
Yuste A. see Marco J. A. 5193

Zahouily M. see Smadja W. 3683
Zahra J.-P. see Martres P. 765
Zair T. Santelli-Rouvier C. and **Santelli M.** Palladium-mediated cyclization of 1,5-hexadien-3-ols to 1-methyl-1,3-cyclopentadienes 4501
Zako Y. see Nagasawa K. 4937
Zamarlik H. see Tiabi M. 7251
Zambounis J. S. and **Mayer C. W.** A new synthesis of unsymmetrical chalcogene substituted tetrachalcogene-fulvalenes 2737
Zambounis J. S. and **Mayer C. W.** Bis-(trimethylsilyl-ethoxymethyl)-dichalcogenides and their application to tetrachalcogene-fulvalenes 2741
Zandi K. S. see Shea K. J. 2715
Zani P. see Bonini B. F. 815
Zani P. see Bonini B. F. 2971
Zani P. see Bonini B. F. 6801
Zanirato V. see Barco A. 2517
Zapata A. see Echavarren A. M. 6421
Zapata A. see Guirado A. 2633
Zarantonello P. see Cainelli G. 2967
Zarcone L. M. J. see Bailey W. F. 4425
Zard S. Z. see Barlaam B. 623
Zard S. Z. see Boivin J. 199
Zard S. Z. see Boivin J. 4299
Zard S. Z. see Boivin J. 5321
Zard S. Z. see Newcomb M. 45
Zárraga M. and **Martín J. D.** Model studies directed towards microalga polyether toxins. A new approach to the construction of *trans,syn,trans*-oxotricyclic systems 2249
Zavgorodny S. Polianski M. Besidsky E. Kriukov V. Sanin A. Pokrovskaya M. Gurskaya G. Lönnberg H. and **Azhayev A.** 1-Alkylthioalkylation of nucleoside hydroxyl functions and its synthetic applications: a new versatile method in nucleoside chemistry 7593
Zdrojewski T. see Moss R. A. 1925
Zdrojewski T. see Moss R. A. 5667
Zecchini G. P. Paradisi M. P. Torrini I. Lucente G. Gavuzzo E. Mazza F. Pochetti G. and **Spisani S.** For-Met-Δ^ZLeu-Phe-OMe: a new active analog of chemotactic N-formyltripeptides

INSTRUCTIONS TO CONTRIBUTORS FOR THE PREPARATION OF MANUSCRIPTS FOR DIRECT REPRODUCTION

(For full Instructions see issue 1 of this Volume)

Tetrahedron Letters is a medium for the rapid publication of short communications in English, French or German and offers maximum dissemination of outstanding developments in organic chemistry.

The Letters attempts to provide rapid publication of important **new** contributions. Communications may announce either experimental or theoretical results of special interest, and will be evaluated for their novelty, timeliness and general interest. In accepting papers, the editors are guided by the opinions of referees who are chosen from panels of experts or from specialists in the community of organic chemists. **Authors are encouraged to suggest names of several experts in the field when papers are first submitted or at any time in the evaluation process.**

Referees are asked to distinguish contributions meeting the above requirements, and having an element of urgency, from otherwise worthwhile work which could more properly await publication in a complete form accompanied by full experimental details. Alternatively, as for example, where the main interest lies in medicinal aspects of the work, it may be preferable to publish the results in a more specialized journal.

When submitting a communication, authors must include a brief statement justifying acceptance.

The typewritten manuscript is reproduced photographically, and each communication is a separate entity. Authors are requested to send papers of 2 or 4 pages. Longer papers will not be accepted. Articles of 3 or just over 3 pages may be returned to the authors for shortening.

ABSTRACT

Authors must include a short abstract in English of approximately three lines typed in single spacing. This should appear immediately after the address and before the commencement of the communication.

GRAPHICAL ABSTRACTS

Authors are requested to supply a graphical abstract in triplicate in finished, camera-ready form at the time the Letter is first submitted. These abstracts should aim at presenting the essence of the Letter in a concise, pictorial form, useful for rapid scanning of the Journal and for the compilation of data bases. Carefully drawn structural formulae are desired which serve to illustrate the theme of the paper. Appropriate text should be incorporated, not to exceed the space limitations (5 × 19·5 cm). In publication, abstracts will be reduced by 25%.

PREPARATION OF MANUSCRIPTS

In the introductory section of the communication, the author should attempt to outline the significance of the work and the rationale for urgent publication. Where new general methods are described, typical experimental procedures should be provided.

Manuscripts should be typed to one and a half spaces, using a black ribbon (blue ink cannot be reproduced) on good quality white bond paper. The typist should ensure a clean, clear impression on the letters. Any good quality paper may be used, provided the actual typing area fills the space as outlined below, the margins being provided during reproduction. **Two copies of the manuscript must accompany the original.**

For papers composed on a word processor, letter quality printers, but not dot matrix printers should be used.

The title should be in bold with the initial letter of each major word capitalized, and centred on the width of page 1 with the title at least 2 cm from the top of the page. After one line of space, the authors' names and addresses should be provided on separate lines, capitalizing the first letter of all main words. The author or authors to whom correspondence should be addressed by readers of the Journal should be indicated by an asterisk. The typing area of page 1, including the title, should be 18·75 cm wide by 24 cm deep.

The typing area of all other pages should be extended to cover an area 18·75 cm wide by approximately 26 cm deep (which will fit on 8½" by 11" paper).

CAMERA-READY REQUIREMENTS, FORMULAE AND TABLES

To maintain a finished, artistic appearance of the Journal, authors are asked to use whatever resources are available to them to produce manuscripts of pleasing appearance. Direct reproduction of camera-ready papers requires the author to provide the manuscript in a finished artistic format making the best possible use of the space within two or four completely utilized pages. Manuscripts may be cut and pasted, with tables and formulae placed appropriately within the manuscript. Formulae and other graphical material should be drawn with special care and pasted up exactly as the page is to appear in the Journal, generally avoiding freehand illustration. The size of formulae may vary according to the nature of the illustrations but these should neither be overpowering nor so small that they are hard to read after the usual reduction (by a factor of 25%). *Regional Editors may return otherwise acceptable papers for modification if the quality of the figures or structural formulae is poor or the overall layout is carelessly composed. Originals are preferred, but high-quality reproductions are acceptable if they are clear with good black and white contrast.*

HAZARDOUS COMPOUNDS

Authors are encouraged to draw attention to hazards by adding the word CAUTION followed by a brief descriptive phrase and literature reference if appropriate.

TRADEMARKS

Authors are required to acknowledge trademark protection in the standard fashion, e.g. Selectride®, Exaltolide® (although not for words which have entered general usage: pyrex, etc.).

REPRINTS

Any reprints required (above the 25 free) must be indicated on submission.

MAILING OF MANUSCRIPTS

Manuscripts and graphical abstracts in English should be sent in triplicate directly to the Regional Editor for the particular areas as outlined below. **In order to achieve the most rapid publication time possible for communications, authors should FAX a copy (supplying their own telephone and FAX numbers) to the Regional Editor at the same time as they mail the camera-ready manuscript.** Communications in the French language should be sent to Professor Ourisson; those in the German language to Professor Steglich. Extra delay will be involved if papers are sent to other Regional Editors as they will be forwarded for refereeing to the Editor of the particular region involved. The appropriate Editor is normally determined by the address of the author to whom the correspondence should be sent (as indicated by an asterisk). *Where question arises, the area chosen should correspond to the laboratory where the work was performed.*

1. Professor W. Steglich (*contributions from the German-speaking area in German or in English*), *Institut für Organische Chemie und Biochemie der Universität Bonn, D-5300 Bonn 1, Gerhard-Domagk-Strasse 1, BRD.* **FAX: 49 228 258216.**

2. Professor G. Ourisson (*contributions from the French-speaking area in French or in English*), *Centre National de la Recherche Scientifique, Centre de Neurochimie, 5 rue Blaise Pascal, 67084 Strasbourg, Cedex, France.* **FAX: 33 88 607620.**

3. Professor S. Ito (*Japan, China including Taiwan, North and South Korea, Hong Kong and Macau*), *Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Yamashiro-cho, Tokushima 770, Japan.* **FAX: 81 886 55 8774.**

4. Professor H. H. Wasserman (*North, Central and South America*), *Department of Chemistry, Yale University, P.O. Box 6666, New Haven, CT 06511, USA.* **FAX: 1 203 432 9990.**

5. Professor N. K. Kochetkov (*USSR*), *N. D. Zelinsky Institute of Organic Chemistry, Academy of Sciences USSR, Leninsky Prospekt 47, Moscow B-334, USSR.* **FAX: 7 095 135 5328**

6. Professor A. McKillop (*all regions other than those specified under 1–5 above*), *University of East Anglia, School of Chemical Sciences, University Plain, Norwich NR4 7TJ, England.* **FAX: 44 603 507773.**

Note: The contents of papers shall be the sole responsibility of the authors and publication shall not imply the concurrence of Editors or Publisher.

SEND FOR A FREE SAMPLE COPY OF...

TETRAHEDRON: ASYMMETRY

THE INTERNATIONAL JOURNAL FOR RAPID PUBLICATION ON ALL ASPECTS OF ASYMMETRY IN ORGANIC, INORGANIC, ORGANOMETALLIC, PHYSICAL AND BIO-ORGANIC CHEMISTRY

Editor-in-Chief: **S G DAVIES,** *The Dyson Perrins Laboratory, South Parks Road, Oxford OX1 3QY, UK*
Chairman of the Executive Board of Editors for Tetrahedron Publications:
SIR DEREK BARTON FRS, *Department of Chemistry, Texas A and M University, College Station, Texas 77843-3255, USA*

Tetrahedron: Asymmetry presents experimental or theoretical research results of outstanding significance and timeliness on asymmetry in organic, inorganic, organometallic and physical chemistry, as well as its application to related disciplines, especially bio-organic chemistry. The journal publishes critical reviews, original research articles and preliminary communications dealing with all aspects of the chemical, physical and theoretical properties of non-racemic organic and inorganic materials and processes.
Topics relevant to the journal include: the physico-chemical and biological properties of enantiomers; strategies and methodologies of asymmetric synthesis; resolution; chirality recognition and enhancement; analytical techniques for assessing enantiomeric purity and the unambiguous determination of absolute configuration; and molecular graphics and modelling methods for interpreting and predicting asymmetric phenomena. Papers describing the synthesis or properties of non-racemic molecules will be required to include a separate statement in the form of a Stereochemistry Abstract, for publication in the same issue, of the criteria used for the assignment of configuration and enantiomeric purity.

A Selection of Papers
P J COX & N S SIMPKINS (UK), Asymmetric synthesis using homochiral lithium amide bases.
B HEISER, E A BROGER & Y CRAMERI (Switzerland), New efficient methods for the synthesis and *in-situ* preparation of ruthenium(II) complexes of atropisomeric diphosphines and their application in asymmetric catalytic hydrogenations.
B RONAN & H B KAGAN (France), Highly diastereoselective Diels-Alder reactions with (*R*)-ethoxy *p*-tolyl vinyl sulfonium tetrafluoroborate.
G ROSINI, E MAROTTA, A RAIMONDI & P RIGHI (Italy), Resolution and EPC synthesis of both enantiomers of 2,5-dimethylbicyclo[3.2.0]heptan-*endo*-2-ol, key intermediate in the synthesis of grandisol.
K FUJI, K TANAKA, H ABE, A ITOH, M NODE, T TAGA, Y MIWA & M SHIRO (Japan), Asymmetric Diels-Alder cycloaddition with chiral 2-alkylsulfinyl-1-nitroalkenes.
E J TOONE & J B JONES (Canada), Enzymes in organic synthesis--XLIX. Resolutions of racemic monocyclic esters with pig liver esterase.

Indexed/Abstracted in: *Chemical Abstracts, Current Contents*

(00937)
Subscription Information
1992: Volume 3 (12 issues)

Annual subscription (1992)	**£295.00**	**US$535.00**
Two-year rate (1992/93)	**£560.50**	**US$1016.50**

ISSN: 0957-4166

PERGAMON PRESS

Pergamon Press Ltd, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press, Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA

Advertising rate card available on request. Back issues and current subscriptions are also available in microform. Sterling prices quoted are definitive. US dollar prices are quoted for convenience only and are subject to exchange rate fluctuation. Prices shown include postage and insurance and apply worldwide except in Japan.

Printed in Great Britain by Page Bros, Norwich